VHS-C Camcorder

VKR6837/20

68VKR37/40

Service
Service
Service

Service Manual

Camcorderset VHS-C PAL

VKR6837/20

VKR6837/00	Camcorder
SBC5413/00	**AC-Adapter**
22AV5186/20	Grip type battery
22AV5167/00	Carrying strap
SBC5509/00	Outputcable **AV-Scart**

68VKR37/40

- **68VKR37/20**	Camcorder
- SBC5413/20	AC-Adapter
- 22AV5166/20	Grip type battery
- 22AV5167/20	Carrying strap
- SBC5509/20	Outputcable AV-Scart

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- **Adjustment procedures**
- **Block diagrams**
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Safety regulations require that the set be restored to its original condition and that parts which are **identical with those specified be used.**

Subject to modification
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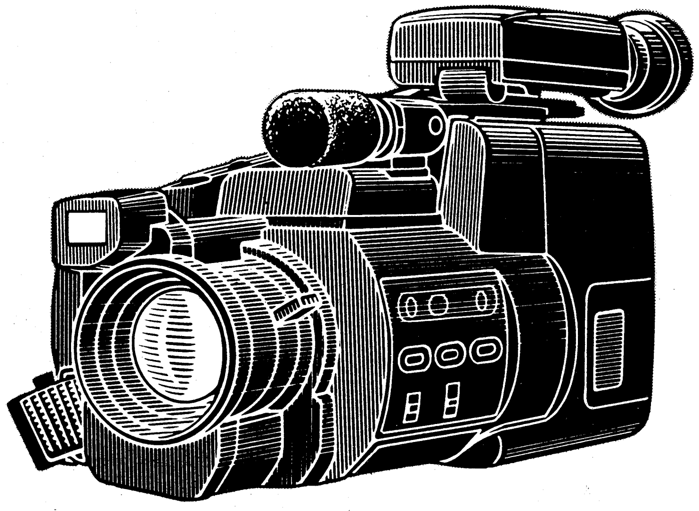
Service Manual

VHS-C Movie

Panasonic VHS C PAL HQ

NV-MC6 E B EG

General Description
Adjustment Procedures
Block/Schematic Diagrams
Exploded Views/Parts List



SPECIFICATIONS

ITEM	SPECIFICATION
POWER	Source: BATTERY; DC 9.6 V Consumption; Recording mode; 7.6 W (Battery operation)
RECORDING SYSTEM	4 rotary heads, helical scanning system PAL
TAPE FORMAT	VHS-C Cassette Tape (Tape width 12.7 mm)
TAPE SPEED	SP mode: 23.39 mm/s Record/Playback Time SP mode: 30 min. with NV-EC30HG FF/REW Time less than 3 min. with NV-EC30HG
CAMERA	PICK-UP ELEMENT: CCD (Charge Coupled Device)
	STANDARD ILLUMINATION: 1,400 lux
	MINIMUM REQUIRED ILLUMINATION: 10 lux
	LENS: Built-in 6 : 1 Power Zoom Lens with MACRO Function, Auto Iris, Auto Focus System, F1.2 (9～54 mm), Filter Diameter/ϕ49 mm
	VIEW FINDER: 2/3″ B/W Electric View Finder
	WHITE BALANCE: Auto White Balance/ Indoor/Outdoor
VIDEO	HEADS: 4 rotary heads, 1 flying erase head
	OUTPUT: 8 PIN CONNECTOR; 1.0 Vp-p 75Ω terminated
AUDIO	HEAD: 1 Stationary head (Normal Audio)
	INPUT: MIC IN (M3); −70 dB, 4.7 kΩ unbalanced
	OUTPUT: 8 PIN CONNECTOR; −8 dB 1 kΩ unbalanced
WEIGHT	Approx. 1.28 kg (without Battery Pack)
DIMENSIONS	122.0(W) × 157.5(H) × 274.5(D) mm
ACCESSORIES	1 pc. AV Output Cable 1 pc. AC Adaptor (VW-AMC1) 1 pc. Battery Pack (VW-VBC1) 1 pc. Shoulder Strap 1 pc. RF Adaptor (VW-RFC1) 1 pc. Battery for Clock 1 pc. VHS-C Cassette Adaptor (NV-MC6B Only) 1 pc. System Carring Case (NV-MC6B Only) 1 pc. VHS-C Cassette Tape 1 pc. Charactor Generator 1 pc. Car Battery Cord 1 pc. Handgrip 1 pc. Soft Case 1 pc. Pause Remote Control Unit 1 pc. DC Input Cable 1 pc. DIN-DIN Coaxial Cable

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

Panasonic

Matsushita Electric Industrial Co., Ltd.
Central P.O. Box 288, Osaka 530-91, Japan

INTRODUCTION

This service manual contains technical information which will allow service technicians to understand and service this model.

Section 1 presents you with some general information of features and controls, enabling you to become familiar with each function.

Section 2 contributes to your mechanical and electrical adjustment as well disassembly and replacement procedures.

In the case of very common information relating to other models like mechanical adjustments, please refer to each service manual.

Section 3 contains block diagrams which offers you information for checking and understanding each circuit. Schematic diagrams which give you detailed information such as waveforms, voltage data, function e.t.c...

Section 4 contains exploded views and parts list.

Please place orders using the parts list and not the drawing reference numbers.

If the circuit is changed or modified, this information will be followed by supplementary service manual to be filed with original service manual.

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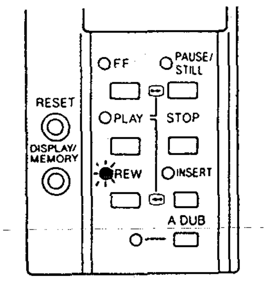
ELECTRICAL REPLACEMENT PARTS LIST

Technical Information

1. SELF-DIAGNOSING SYSTEM

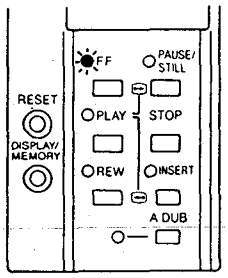
The microprocessor IC6001 (uPD75108G715) has the programme for Self–diagnosing system, which provides a great deal of service information for quick trouble shooting .
If undesirable condition happen to unit ,the LEDs start to flash in different combination depending on the fault as shown below.

S-REEL LOCK


RESET
DISPLAY/MEMORY
OFF
PAUSE/STILL
PLAY
STOP
REW
INSERT
A DUB

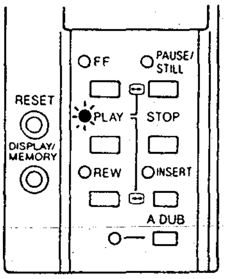
No supply Supply Reel Sensor input

T-REEL LOCK


RESET
DISPLAY/MEMORY
FF
PAUSE/STILL
PLAY
STOP
REW
INSERT
A DUB

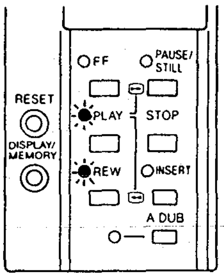
No supply Takeup Reel Sensor input

CYLINDER LOCK


RESET
DISPLAY/MEMORY
OFF
PAUSE/STILL
PLAY
STOP
REW
INSERT
A DUB

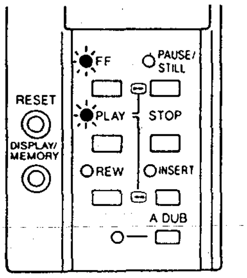
No supply Head Amp Switch input

UNLOADING LOCK


RESET
DISPLAY/MEMORY
OFF
PAUSE/STILL
PLAY
STOP
REW
INSERT
A DUB

No rotation of Loading motor in unloading direction

LOADING LOCK


RESET
DISPLAY/MEMORY
FF
PAUSE/STILL
PLAY
STOP
REW
INSERT
A DUB

No rotation of Loading motor in

Note:
Connect the Diode between Pin2 and Pin1 as shown below.

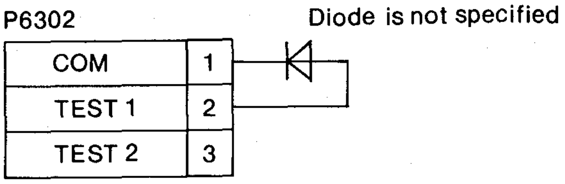

P6302
Diode is not specified
COM
TEST 1
TEST 2
1
2
3

Fig. 1

2. SERVICE CAUTION

1. Servicing the VTR Section

Remove Cabinet Parts and VTR C.B.A.s in the order described in the Disassembly Section and place them as shown in Fig. 2.
Connection of the Extension Cables (A) (VFKS0067), (B) (VFKS0068), (C) (VFKS0075), (D) (VFKS0068), (E) (VFK0430), Y/C Separator Connection Cable (VFKS0074) and Y/C Separator (VFK0304) are necessary for servicing.

Note:
1. When unplugging or plugging in connectors use extreme caution.

(1) Connects the Extension Cable (A) (VFKS0067) between P2001 on the Main C.B.A. and P2601 on the Drive C.B.A.
(2) Connects the Extension Cable (B) (VFKS0068) between P6002 on the Main C.B.A. and Full Erase Head Cable.
(3) Connects the Extension Cable (C)(VFKS0075) between P3501 on the Main C.B.A. and P5001 on the Head Amp C.B.A.
(4) Connects the Extension Cable (D) (VFKS0068) between P6002 on the Main C.B.A. and Cassette Down Detection Cable.
(It use only Recording Mode)
(5) Connect the Y/C Separator (VFK0304) to the Extension Cabel (P1002) using the Y/C Separator Connection Cable (VFKS0074).
(6) When accessing the Recording Mode, connect a jumper between Pin 1 and Pin 2 of P6006 on the Main C.B.A.
(7) When using the Y/C Separator (VFK0304), connect Pin 4 of P1002 to GND through a resistor (180ohm) to stabilize the video signal.

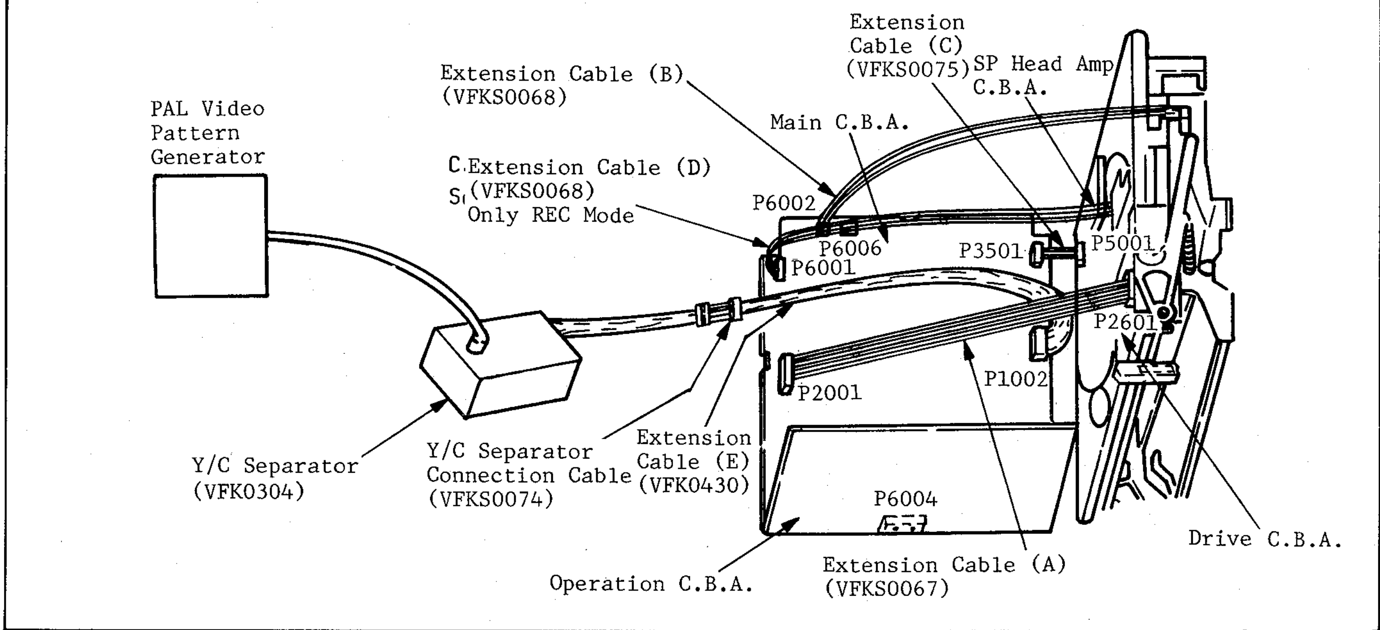

PAL Video Pattern Generator
Extension Cable (B) (VFKS0068)
Extension Cable (C) (VFKS0075)
SP Head Amp C.B.A.
Main C.B.A.
Extension Cable (D) (VFKS0068) Only REC Mode
P6002
P6006
P6001
P3501
P5001
P2601
P2001
P1002
Y/C Separator (VFK0304)
Y/C Separator Connection Cable (VFKS0074)
Extension Cable (E) (VFK0430)
P6004
Drive C.B.A.
Extension Cable (A) (VFKS0067)
Operation C.B.A.

Fig. 2

2. Servicing the Camera Section

When servicing the Camera Section, connection of the Extension Cable (F) (VFK0380) and extension Cable (G) (VFKS0060) are necessary as shown in Fig. 3.

(1) Connects the Extension Cable (F) (VFK0380) between B302 on the Process C.B.A. and B201 on the Sensor C.B.A.
(2) Connects the Extension Cable (G) (VFKS0060) between BA305 on the Process C.B.A. and Zoom Motor Unit.

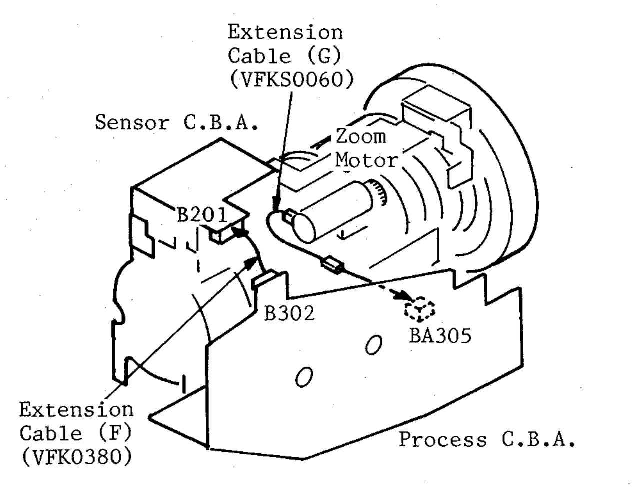

Extension Cable (G) (VFKS0060)
Sensor C.B.A.
Zoom Motor
B201
B302
BA305
Extension Cable (F) (VFK0380)
Process C.B.A.

Fig. 3

3. How To Use Camera Holder Arm (VFK0431)

This Camera Holder Arm which is adjustable the span must be mounted to VFK0382 (Camera Holder of NV–M5) and it can be used with VFK0432 for camera adjustments or checking for NV–MC6.

(A) –––	VFK0432	Holder Spacer (2pcs.)
(B) –––	VFK0431	Camera Holder Arm
(C) –––	XSN26+18	Screw (2pcs.)
(D) –––	VFK0382	Camera Holder

1. (1) Fix the Holder Arm (4) and (5) temporarily by screw (1) as shown in Fig. 4.
2. (2) Mount the Camera Holder Arm (B) to the Camera Holder (D) by screws (2) and (3) as shown in Fig. 5.
3. (3) Tightn the screws (C) with the Holder Spacers (A) as shown in Fig. 4.

4. How To Connect the Y/C Separator snd Y/C Separator Connection Cable

When the Y/C Separator Connection Cable (VFKS0074) is used to connect to Y/C Separator the caution should be paid the following items :

*Cut off the marked portion of Y/C Separator output connector as shown in Fig. 6.

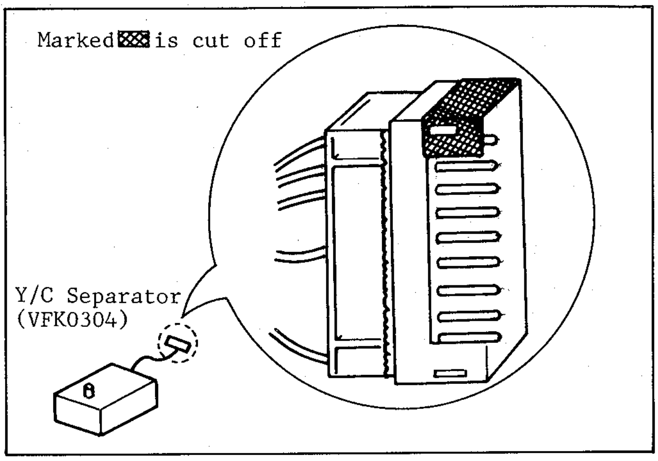

Marked ▨ is cut off
Y/C Separator
(VFK0304)

Fig. 6

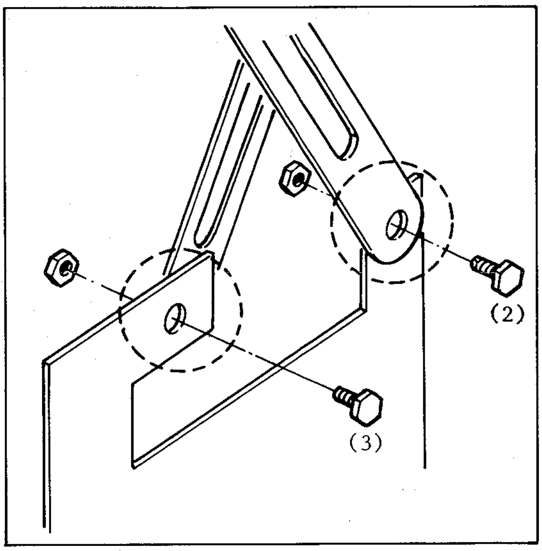


Fig. 5

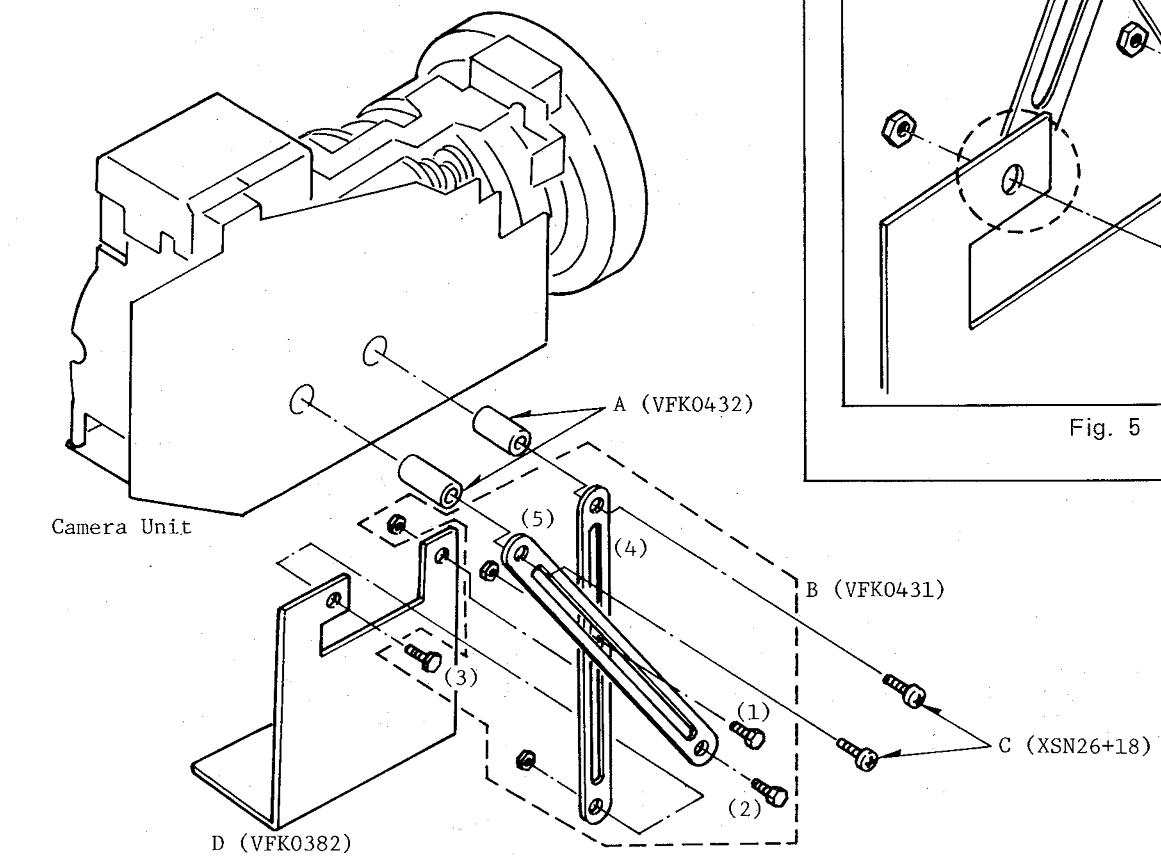

A (VFK0432)
Camera Unit
(5)
(4)
B (VFK0431)
(3)
(1)
C (XSN26+18)
(2)
D (VFK0382)

Fig. 4

5. Set Tracking Control to the Fixed position

If the Tracking Control is required to be in the fixed (neutral) position, push both of the tracking Control Up/Down Switchs, on the Main C.B.A., in at the same time in Playback Mode.

6. Manual Eject–Tape in and Carriage closed

(1) Remove Cassette Cover by removing 2 Screws.
(2) Push on upper end of Lock Lever to release cassette carriage.

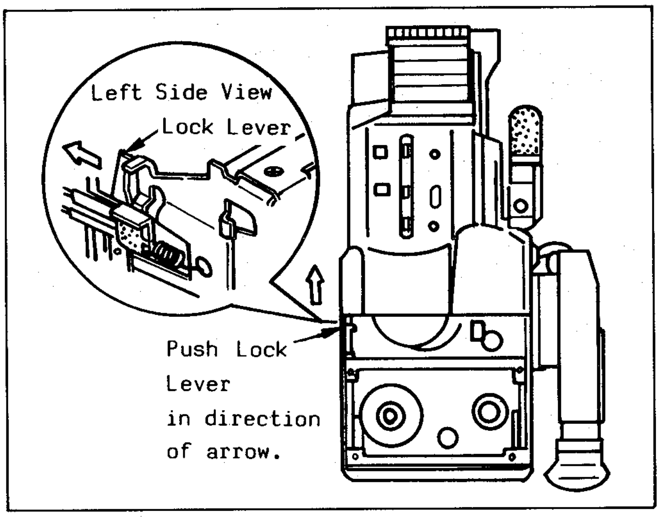


Fig. 7

7. Elimination of Tape slack

Before inserting the Cassette Tape in the VHS–C Movie, take up slack in the tape by turning the Takeup Tape Gear on the side of the Cassette Tape. Turn it in the direction of the arrow until no slack is evident and opposite reel begins to turn.

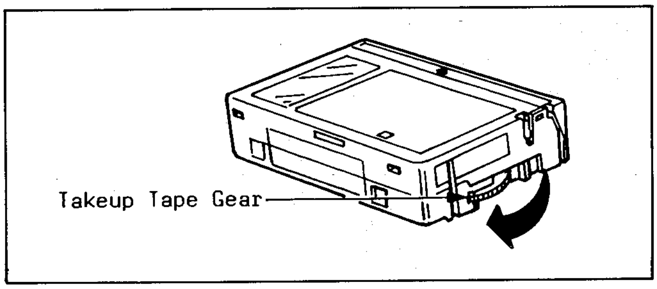


Fig. 8

8. Insertion (or Removal) of cassette Tape

As in Fig. 5, hold the tape vertically with fingers and thumb to insert or remove the tape. (Be sure to eliminate slack before inserting the tape.)

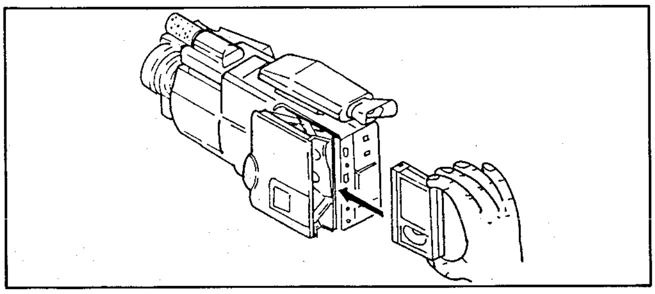


Fig. 9

9. Connection of the Flexible Cables to Trap Connectors

a. Removal

1. On the trap Connector, pull out on both ends of the Locking Tab surrounding the cable end to release the Trap on the Connector. Then pull Flexible Cable out to remove as shown in Fig. 6.

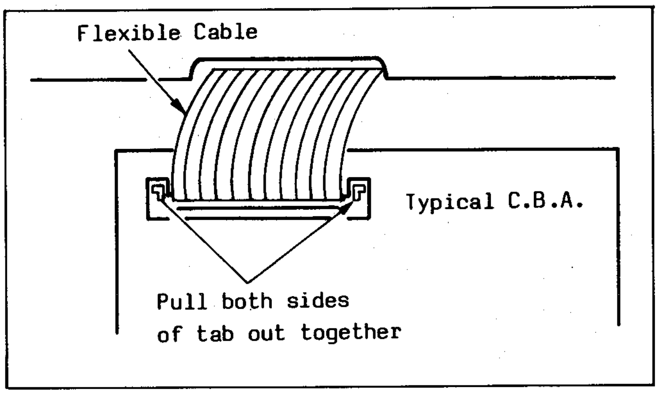


Fig. 10

b. Installation

1. Insert the end of the Flexible Cable into the Trap Connector so it lays smoothly across the slot.
2. Press the middle of the cable firmly against the Trap Connector slot, and hold it securly.
3. Without pinching the Cable, press the Locking Tabs in against the Trap Connector until both ends snap into their locked positions.
4. Pull lightly on the Cable to check for positive connection.

Note:
1) Take care when removing or installing the Flexible Cable to prevent Cable damage.

10. Service of Operation Bracket Unit

When removing of reinstalling the Operation Bracket Unit and Switch Cover, first install the Switch Cover over the Operation Key portion (CAMERA MODE) of the Operation Bracket Unit, and then install assembly parts.

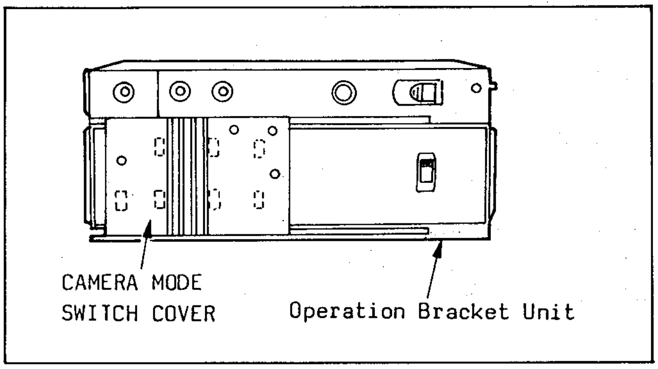
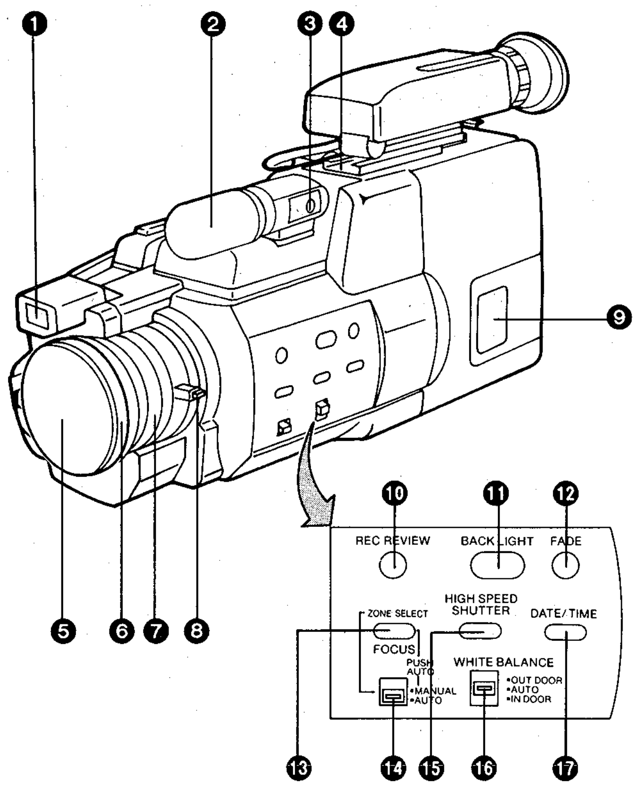


Fig. 11

SECTION 1
GENERAL DESCRIPTION

1. HOW TO USE VHS-C MOVIE

1-1. CONTROLS AND COMPONENTS



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REC REVIEW
BACK LIGHT
FADE
HIGH SPEED SHUTTER
ZONE SELECT
DATE/TIME
FOCUS
PUSH AUTO
•MANUAL
•AUTO
WHITE BALANCE
•OUT DOOR
•AUTO
•IN DOOR
⓭
⓮
⓯
⓰
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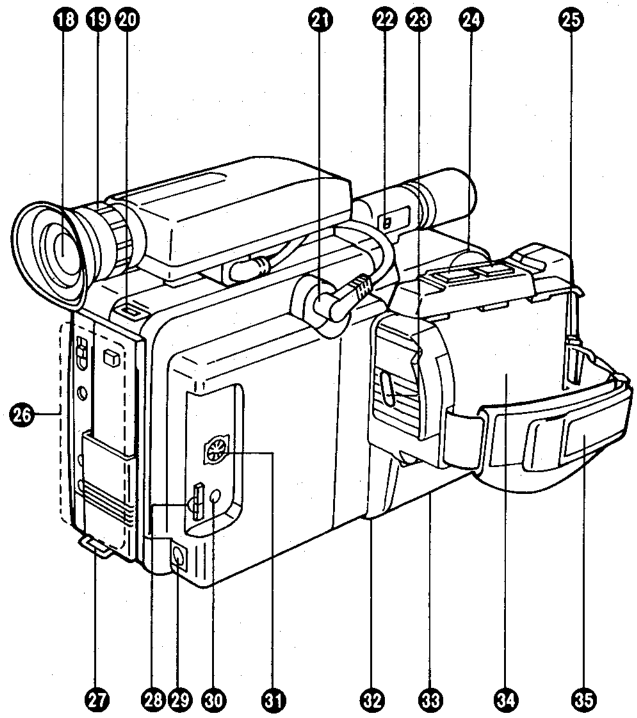

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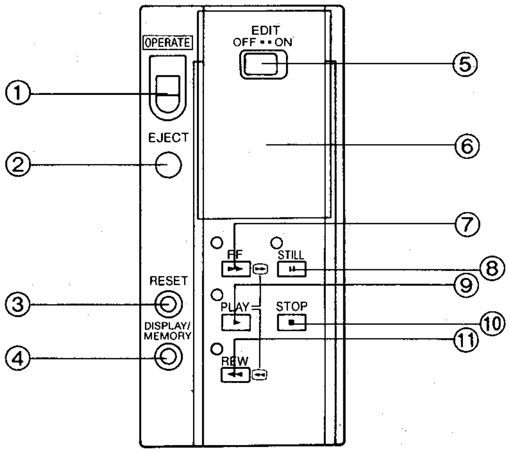
❶ White Balance Sensor Window
❷ Built-in Microphone
❸ External Microphone Socket
❹ Accessory Shoe
❺ Lens Cap
❻ Lens Hood
❼ Focus Ring
❽ Manual Zoom Lever with Macro Button
❾ Cassette Compartment
❿ Rec Review Button
⓫ Back Light Button
⓬ Fade Button
⓭ Focus Adjusting Button/Zone Selector
⓮ Focus Mode Selector
⓯ High Speed Shutter Selector **(B ONLY)**
⓰ White Balance Mode Selector
⓱ Date/Time Selector

⓲ Electronic Viewfinder
⓳ Eyepiece Corrector Control
⓴ Metal Fitting for Shoulder Strap
㉑ EVF/Character Generator Terminal
㉒ Microphone Sensitivity Selector
㉓ Start/Stop Button
㉔ Power Zoom Control Buttons
㉕ Battery Locking Lever
㉖ General Operation Controls



OPERATE
EDIT
OFF • • ON
EJECT
RESET
DISPLAY/ MEMORY
FF
STILL
PLAY
STOP
REW
①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
⑪

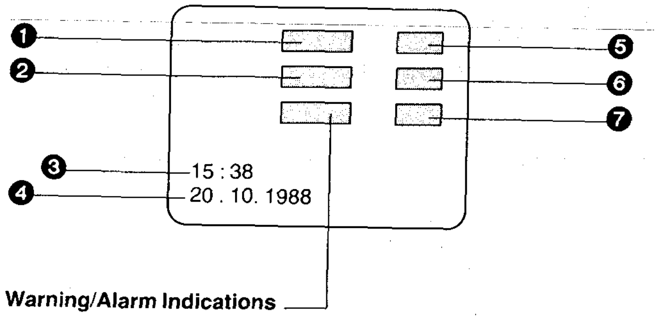
⑥ **Function of the Camera/VTR Selector Cover**
Before starting camera recording, slide this cover close to conceal the Tape Running Buttons and render them inoperative.
For playback, audio dubbing, tape copying and other VTR operations, slide this cover up. This renders the Start/Stop Button and other operation controls for camera recording inoperative.

① Operation On/Off Switch
② Eject Button
③ Reset Button
④ Display/Memory Button
⑤ Edit Switch
⑥ Camera/VTR Selector Cover
⑦ Fast Forward/Cue Button
⑧ Pause/Still Button
⑨ Play Button
⑩ Stop Button
⑪ Rewind/Review Button

㉗ Metal Fitting for Shoulder Strap
㉘ Tracking Up/Down Buttons
㉙ DC Input Socket
㉚ Remote Control Socket
㉛ RF/AV Adaptor Socket
㉜ Tripod Receptacle
㉝ Battery Compartment for Auto Date/Clock
㉞ Battery Holder
㉟ Grip Belt

1-2. ELECTRONIC VIEWFINDER

The following indications are displayed in the Electronic Viewfinder (EVF) to inform you of the operating conditions of the VHS-C Movie.



Warning/Alarm Indications

BATT	There is little battery power left. The VHS-C Movie will be turned off in a few minutes. Replace the battery pack by a fully recharged one.
TAPE	It is impossible to record because the erasure prevention tab of the cassette is not intact.
END	During recording, the tape has almost reached its end. Replace the tape with a new one. The indication will remain lit when the tape has reached its end.
DEW	When condensation has formed inside the VHS-C Movie, the "DEW" indication will flash and a few seconds later, the unit will turn itself off.

❶ Remaining Battery Power Indication

E---F The "▬" indications begin to disappear from right to left as the power of the battery pack weakens.

❷ Counter Indication

M0123 Tape Counter
1 2 :34 Lap Time Counter

❸ Clock Indications

❹ Date Indications

❺ Recording Indication

REC	Recording
– – –	Recording Pause

❻ Recording Mode Indication

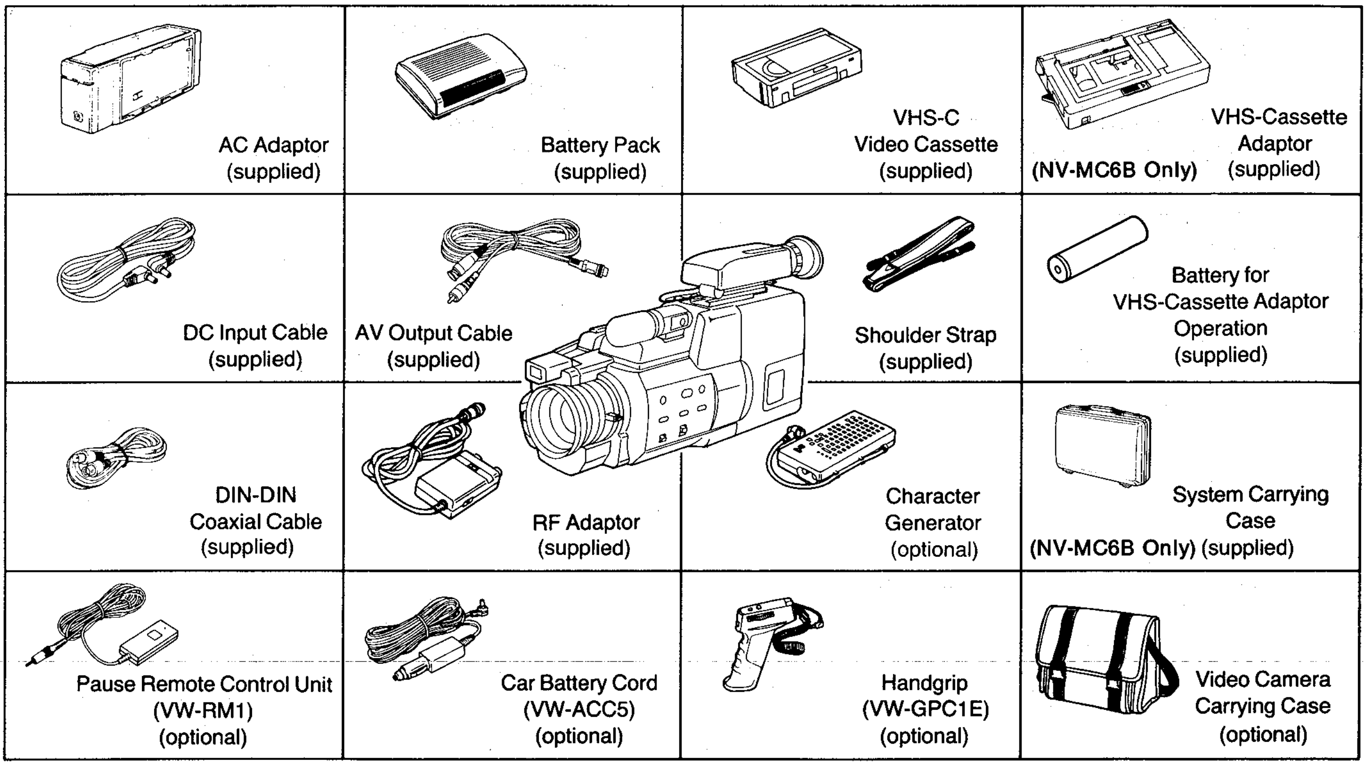
SP	SP mode

❼ Manual White Balance Indication

OUT	OUTDOOR
IN	INDOOR

- Some of the above indications may light up alternately at the same place in the EVF to indicate the corresponding operating condition or warning.
- Indicators ❶, ❷, ❺, ❻, ❼ are not output to external monitor, only to EVF.

1-3. VHS-C MOVIE SYSTEM ACCESSORIES

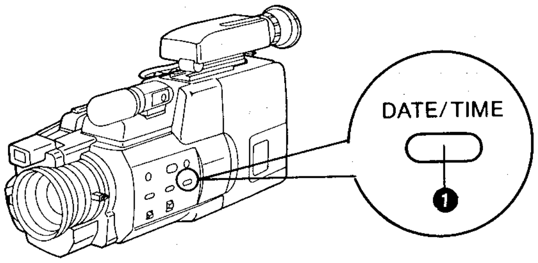


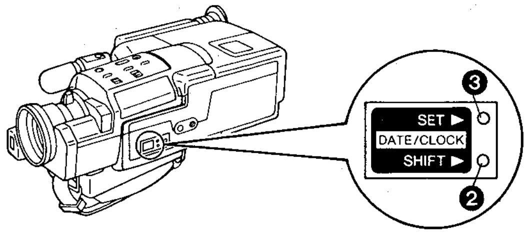
AC Adaptor (supplied)	Battery Pack (supplied)	VHS-C Video Cassette (supplied)	VHS-Cassette Adaptor (NV-MC6B Only) (supplied)
DC Input Cable (supplied)	AV Output Cable (supplied)	Shoulder Strap (supplied)	Battery for VHS-Cassette Adaptor Operation (supplied)
DIN-DIN Coaxial Cable (supplied)	RF Adaptor (supplied)	Character Generator (optional)	System Carrying Case (NV-MC6B Only) (supplied)
Pause Remote Control Unit (VW-RM1) (optional)	Car Battery Cord (VW-ACC5) (optional)	Handgrip (VW-GPC1E) (optional)	Video Camera Carrying Case (optional)

CAUTION: **TO PREVENT FIRE OR SHOCK HAZARD AND ANNOYING INTERFERENCE, USE THE RECOMMENDED ACCESSORIES ONLY.**

1-4. SETTING OF THE DATE AND CLOCK & RECORDING THE DATE/CLOCK INDICATIONS

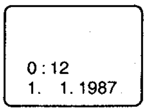
Setting of the Date and Clock





Set by the ballpoint pen.

❶ When the Date/Time Selector is pushed, the indication shown on the right will appear in the EVF.



❷ When the Shift Button is pushed, the flashing portion will be changed in the following sequence.

Year → Month → Date → Hour → Minute ↩

❸ When the Set Button is pushed, the flashing portion displayed will be changed in the following sequence.

YEAR: 1987→1988→ .... →2086 ↩

MONTH: 1→2→ .... →12 ↩

DATE: 1→2→ .... →28→(29)→(30)→(31) ↩

HOUR: 0→1→ .... →23 ↩

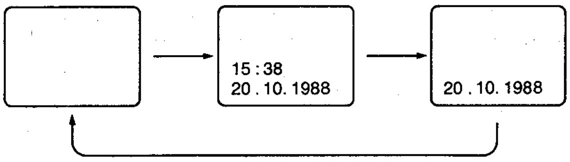
MINUTE: 00→01→ .... →59 ↩

- Repeat procedures ❷ and ❸ until all five items have been set.
- Once the time and date are set, press the Shift Button in response to a precise time signal so that the clock may begin to function.

Recording the Date/Clock Indications

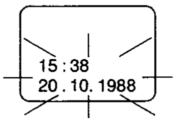
When the Date/Time Selector is pushed repeatedly, the indication will change in the following sequence.

To record neither the Date nor the Clock Indication:	To record the Date and Clock Indications:	To record only the Date Indication:

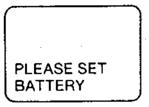


Cautions

- When the battery is almost exhausted, the whole time and date indication will flash.



- When the battery is completely exhausted, the indication "PLEASE SET BATTERY" will appear.

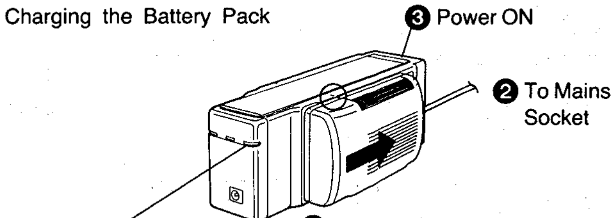


- To make this indication disappear, press the Date/Time Selector twice.
- The battery life is approximately one year.
  To replace the battery, consult only qualified service personnel.
- Since the battery has been installed in the VHS-C Movie before shipping from the factory, the battery life may be shorter than the period stated above.

1-5. THE POWER SUPPLY UNIT

Battery Pack

Charging the Battery Pack



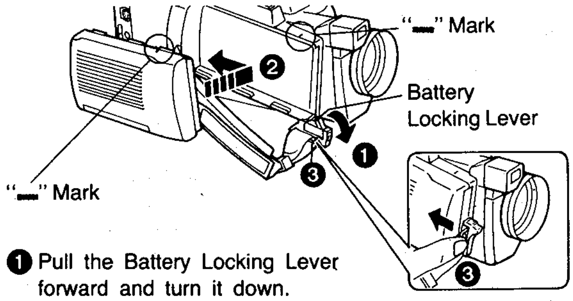
❶ Attach the Battery Pack. (Align the "▬" marks and slide the Battery Pack in the direction of the arrow.)

- When charging an exhausted battery pack, the Charging Indicator Lamp will go out about 90 minutes after charging starts. However, the Battery Pack should be charged at least 3 hours for extended use.
- The VHS-C Movie can be used continuously for approx. 60 minutes with a fully charged Battery Pack.
- The Battery Packs cannot be charged while the AC Adaptor is being used to power the VHS-C Movie.

To charge two Battery Packs simultaneously, attach one each to the Battery Holder on either side of the AC Adaptor.

- **Charging Indicator Lamp**
  Lit .... The Battery Pack is being charged.
  Not lit.......... Charging has been completed.
  Flashing ...... The Battery Pack is in the waiting condition for charging. (When two Battery Packs are attached, one of the lamps will be flashing.) After the charging of the first Battery Pack is completed, the lamp that was flashing will now be lit, and the charging of the second Battery Pack will start.

Attaching



❶ Pull the Battery Locking Lever forward and turn it down.

❷ Align the "▬" marks and slide the Battery Pack backward (⟵).

❸ Hold the part of the Battery Locking Lever where the belt is attached and turn it up until it locks with as click.

Removal

Wait about 10 seconds after turning the VHS-C Movie off with the Operation On/Off Switch, before removing the Battery Pack. To remove the Battery Pack, turn the Battery Locking Lever down and slide the Battery Pack forward until it is released.

- If the Battery Pack is removed during recording or playback, the tape remains wound around the video head cylinder and could become damaged. Before removing the Battery Pack, put the VHS-C Movie in the stop mode and then turn it off with the Operation On/Off Switch.

SECTION 2
ADJUSTMENT PROCEDURES

2-1. DISASSEMBLY METHOD

2-1-1. DISASSEMBLY FLOW CHART

This flow chart indicates the disassembly steps of the cabinet parts and the P.C. Boards in order to gain access to item(s) to be serviced. When re-assembling, perform the step(s) in the reverse order.

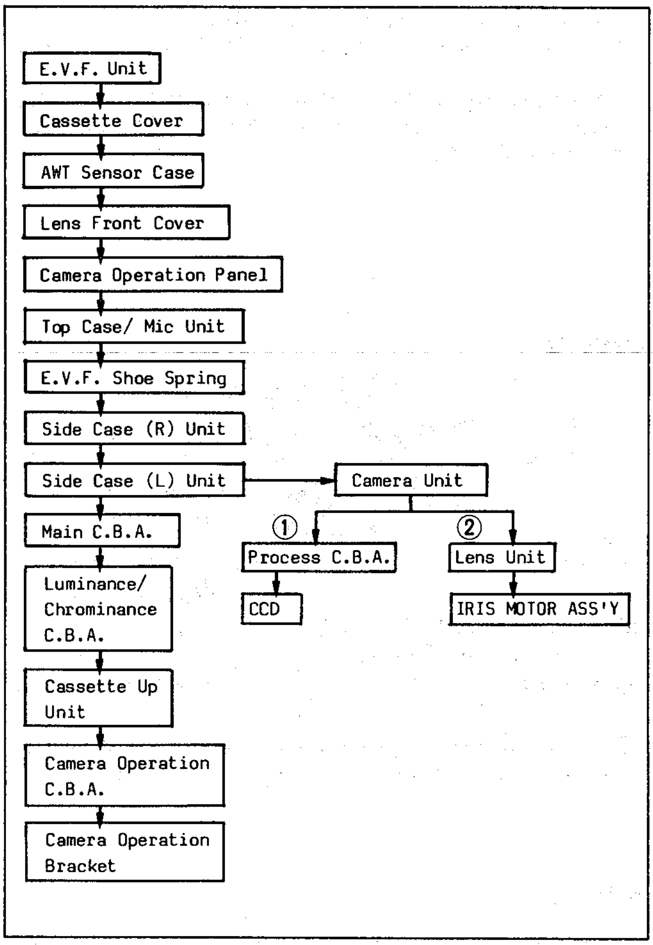

E.V.F. Unit
Cassette Cover
AWT Sensor Case
Lens Front Cover
Camera Operation Panel
Top Case/ Mic Unit
E.V.F. Shoe Spring
Side Case (R) Unit
Side Case (L) Unit
Camera Unit
Main C.B.A.
①
Process C.B.A.
②
Lens Unit
CCD
IRIS MOTOR ASS'Y
Luminance/ Chrominance C.B.A.
Cassette Up Unit
Camera Operation C.B.A.
Camera Operation Bracket

Fig. D1

Note:

a. When removing the cabinet, work with care so as not to break the locking Portions.

b. Place a cloth or some other soft material under the P.C. Boards or Unit to prevent damage.

c. When reinstalling, ensure that the connectors are connected and electrical components have not been damaged.

d. Do not supply power to the Unit during disassembly.

Note:
How to read the Disassembly/Assembly Procedures

(For Cabinet Part) (EXAMPLE)

Step /Loc No.	Part	REMOVAL		
		Fig. No.	Remove *UNLOCK/RELEASE/ UNPLUG/UNCLAMP /UNSOLDER	Note
1	Top Case	D2	2(S-1),*Connector	
①	②	③	④	

1 : Order of steps in Disassembly Procedure. When ressembling, perform the step(s) in the reverse order. These numbers are also used as the identification (Location) No. of parts in Figures.
2 : Part to be removed or installed.
3 : Fig. No. showing Disassembly Procedure.
4 : Indentification of part to be removed, unhooked, unlocked, released, unplugged, unclamped or unsoldered.

* = Unhook, unlock or release
3(S-2) = 3 Screws (S-2)
S = Screw P = Spring
R = Retaining Ring C = Cut washer
W = Washer

2-1-2. VTR SECTION

Step /Loc No.	Part	REMOVAL		
		Fig. No.	Remove *UNLOCK/RELEASE/ UNPLUG/UNCLAMP /UNSOLDER	Note
①	E.V.F. Unit	D2	*Connector	1
②	Cassette Cover	D2	2(S-1),	
③	AWT Sensor Case	D3	2(S-2)	
④	Lens Front Cover	D3	2(S-3)	
⑤	Camera Operation Panel	D2	2(S-4)	
⑥	Top Case/ MIC Unit	D4	2(S-5), *Connector, *Locking Portions	2
⑦	E.V.F. Shoe Spring	D4	(S-6)	3
⑧	Side Case (R) Unit	D4, D5	2(S-7),(S-8), 3(S-9), *Connectors	
⑨	Side Case (L) Unit	D6	2(S-10),(S-11), *Connectors	
⑩	Main C.B.A.	D7	3(S-12), (L-1), *Connectors	4
⑪	SP Head Amp C.B.A.	D7	(S-13),(S-14), *Connector, spacer	
⑫	Luminance/ Chrominance C.B.A.	D7, D8	*(L-2), (L-3), *Connectors *U-Notches	5
⑬	Cassette Up Unit	D9	2(S-15)	6

Table.2-1(A)

Step /Loc No.	Part	REMOVAL		
		Fig. No.	Remove *UNLOCK/RELEASE/ UNPLUG/UNCLAMP /UNSOLDER	Note
⑭	Camera Operation C.B.A.	D6	(S-16), Connectors	
⑮	Camera Operation Bracket	D6	----------	7

Table.2-1(B)

List of Abbreviations:
2(S-1) = 2 Screws (S-1), (L-1) = Locking Tab (L-1)

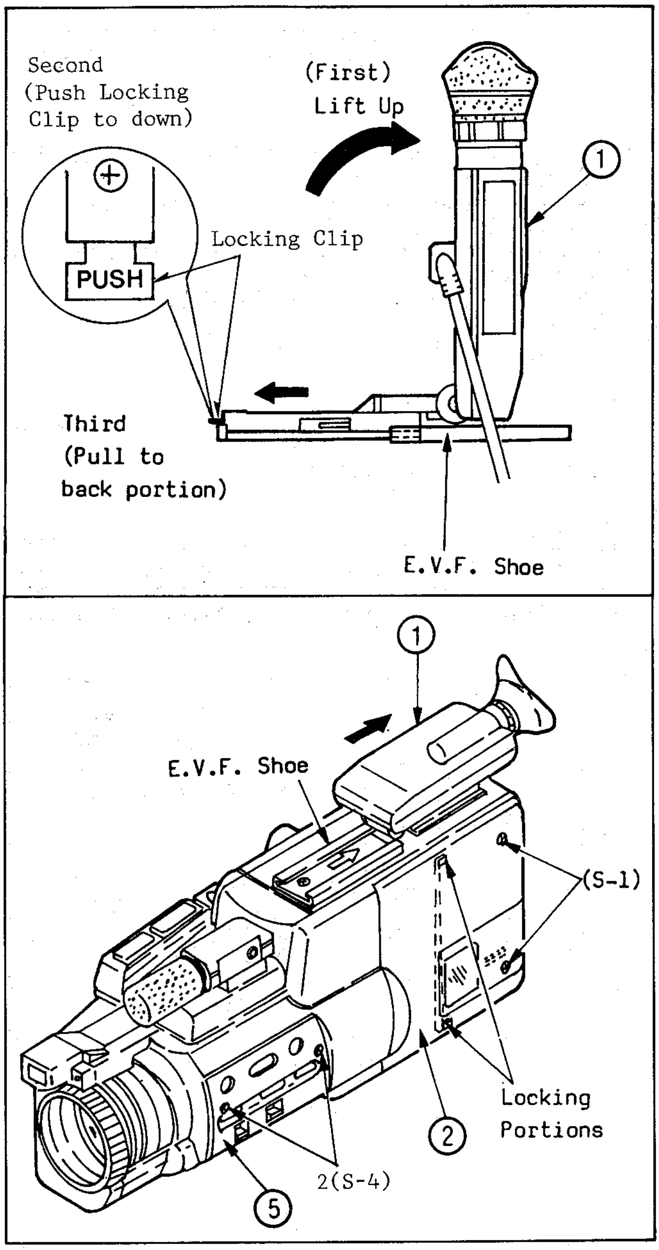

Second
(Push Locking
Clip to down)
(First)
Lift Up
①
PUSH
Locking Clip
Third
(Pull to
back portion)
E.V.F. Shoe
①
E.V.F. Shoe
(S-1)
Locking
Portions
②
2(S-4)
⑤

Fig. D2

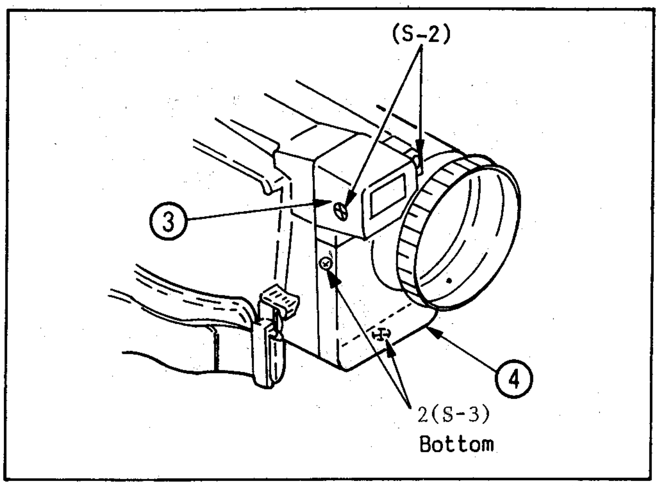

(S-2)
③
④
2(S-3)
Bottom

Fig. D3

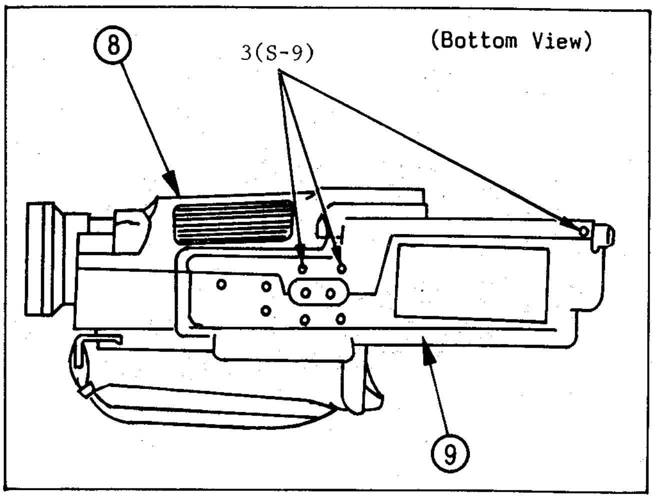

⑧
3(S-9)
(Bottom View)
⑨

Fig. D5

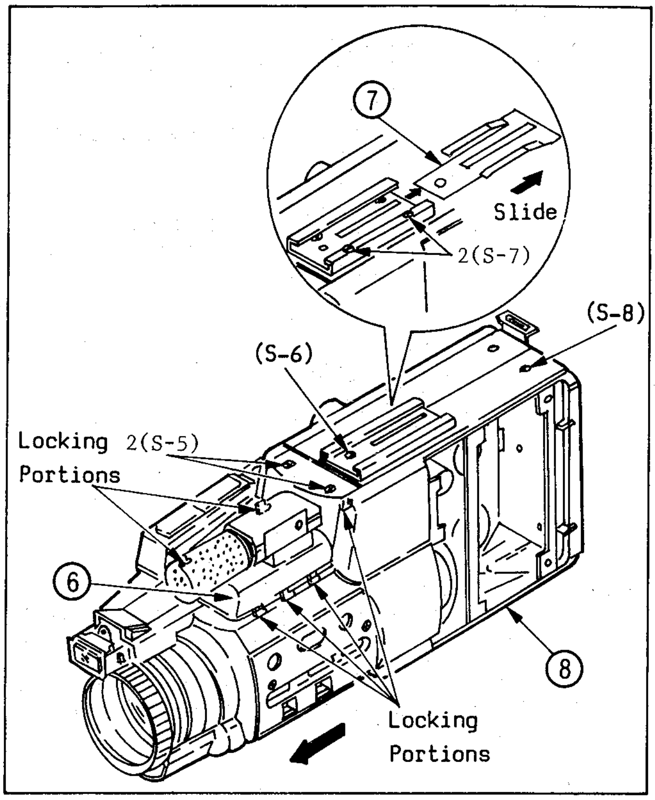

⑦
Slide
2(S-7)
(S-8)
(S-6)
Locking Portions
2(S-5)
⑥
⑧
Locking Portions

Fig. D4

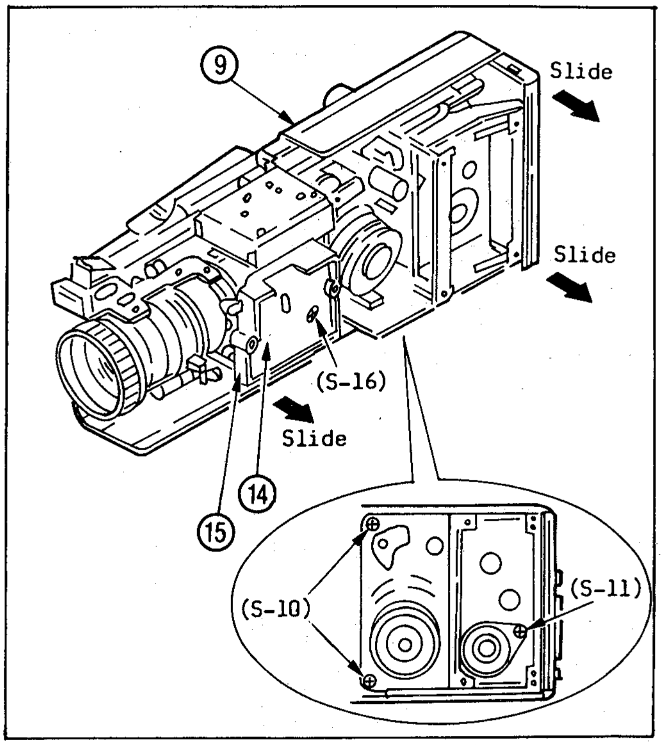

⑨
Slide
Slide
(S-16)
Slide
⑭
⑮
(S-10)
(S-11)

Fig. D6

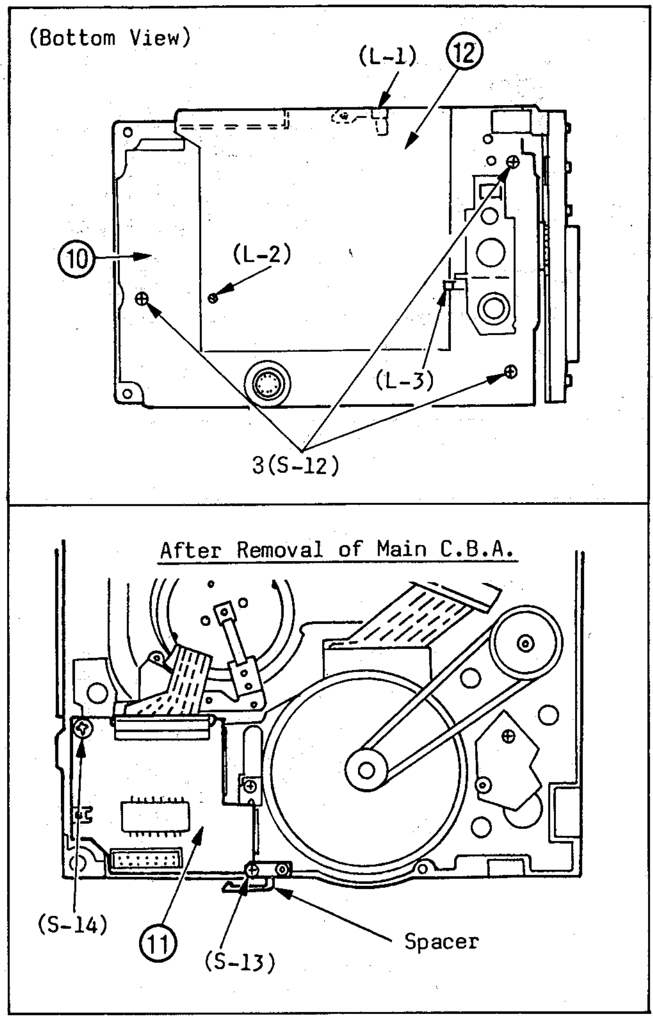

(Bottom View)
(L-1)
⑫
⑩
(L-2)
(L-3)
3(S-12)
After Removal of Main C.B.A.
(S-14)
⑪
(S-13)
Spacer

Fig. D7

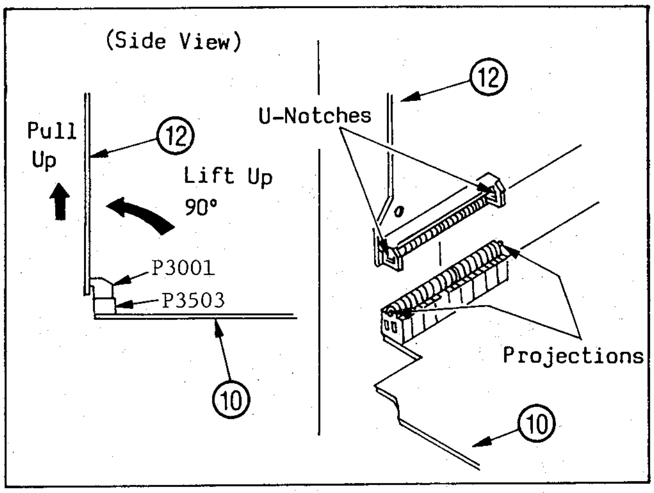

(Side View)
Pull Up
⑫
Lift Up 90°
P3001
P3503
⑩
U-Notches
⑫
Projections
⑩

Fig. D8

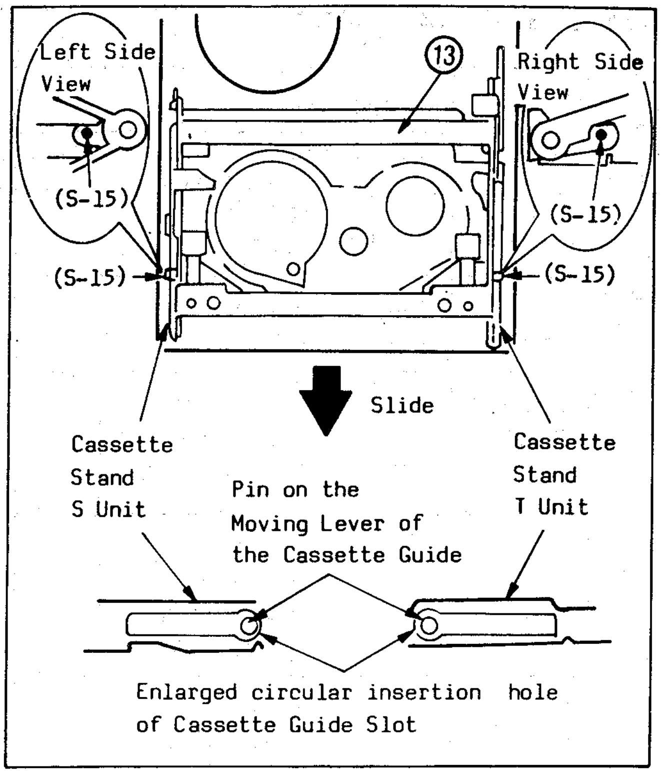

Left Side View
(S-15)
(S-15)
⑬
Right Side View
(S-15)
(S-15)
Slide
Cassette Stand S Unit
Pin on the Moving Lever of the Cassette Guide
Cassette Stand T Unit
Enlarged circular insertion hole of Cassette Guide Slot

Fig. D9

Reference <Notes> in Table 2–1:

1. In Fig. D2, slide the E.V.F. Unit to the rear as shown by the arrow.
2. Slide the top Case to the front portion to remove as shown by the arrow.
3. After removing Screw (S–6), slide the E.V.F. Shoe Spring to the rear as shown in Fig. D4.
4. When opening the Main C.B.A., hold the Head Amp I Ass'y downward to prevent the P.C.B. from cracking and the screw from loosening.
5. (Removal of Luminance/Chrominance C.B.A.)
   1) Release 2 Locking Tabs (L–2) and (L–3) in Fig. D7. And place the Luminance/Chrominance C.B.A. as shown in Fig. D8.
   2) Pull Luminance/Chrominance C.B.A. in the direction indicated by the arrow.
   *Do not pull Luminance/Chrominance C.B.A. when C.B.A.'s are not placed horizontally.
6. 1) The 2 Screws (S–15) are located on the side of the Cassette Up Unit.
   2) Slide the Cassette Up Unit in direction of arrow and release the pins on the moving Levers of the Cassette Up Unit from the enlarged circular insertion hole at end of the Cassette Guide slot.
7. 1) When removing Camera Operation Bracket, slide carefully in the direction shown by the arrow in Fig. D6.

2-1-3. CAMERA SECTION 1

Step /Loc No.	Part	REMOVAL		
		Fig. No.	Remove *UNLOCK/RELEASE/ UNPLUG/UNCLAMP /UNSOLDER	Note
①	Camera Unit	D10, D11	2(S-1), * P304	
②	Process C.B.A.	D11, D13, D14	3(S-2), 2(S-5), Connectors *BA305,*BA301	
③	AF C.B.A.	D12, D14	3(S-3) Connectors *P601, *P602, *P603, *P604	
④	CCD Drive C.B.A.	D13, D15	4(S-4), Sensor Shield Case 2(S-7), Connector *FP201	
⑤	Actuator Ass'y	D13, D16	3(S-6), Sensor Frame(1) 3(S-8)	
⑥	CCD Ass'y	D17	2(S-9)	1

Table.2-2

List of Abbreviations:
2(S-1) = 2 Screws (S-1)

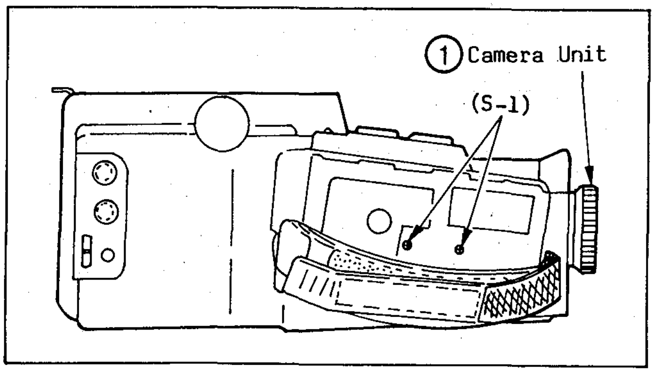

①Camera Unit
(S-1)

Fig. D10

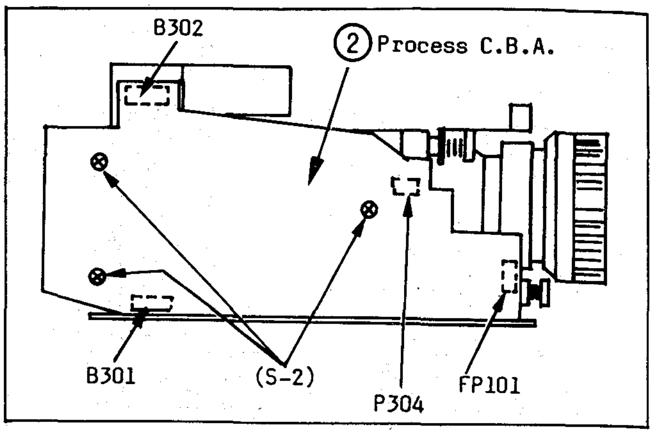

B302
②Process C.B.A.
B301
(S-2)
P304
FP101

Fig. D11

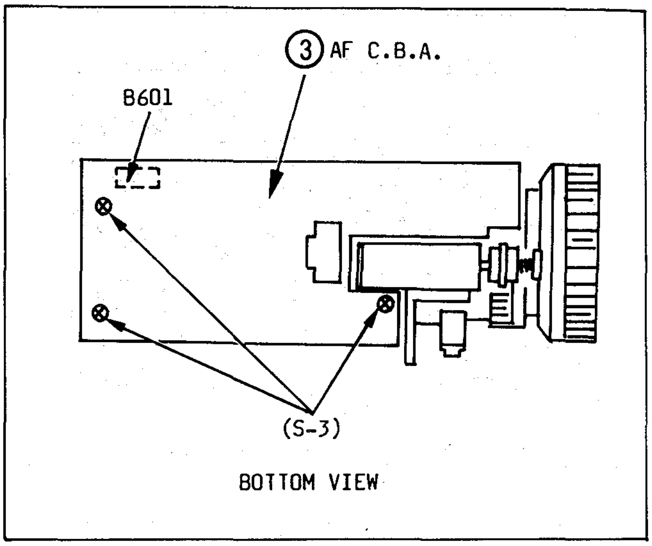

③AF C.B.A.
B601
(S-3)
BOTTOM VIEW

Fig. D12

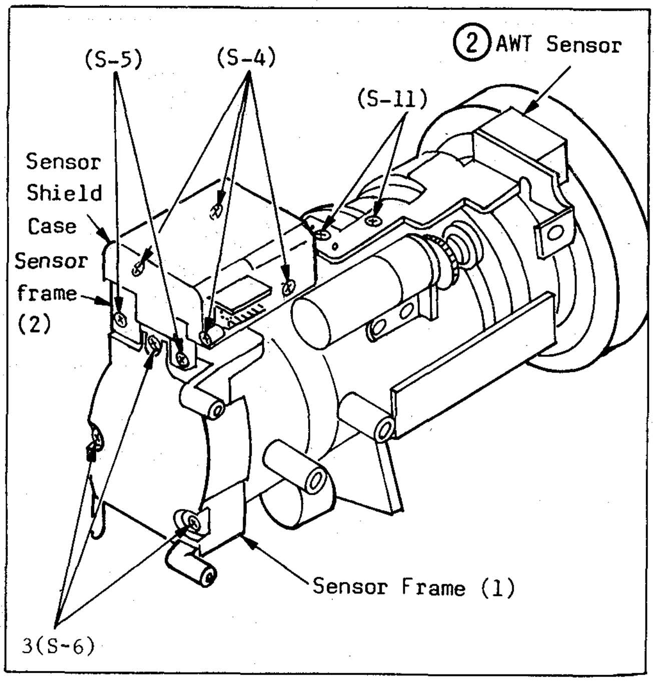

(S-5)
(S-4)
②AWT Sensor
(S-11)
Sensor Shield Case
Sensor frame (2)
Sensor Frame (1)
3(S-6)

Fig. D13

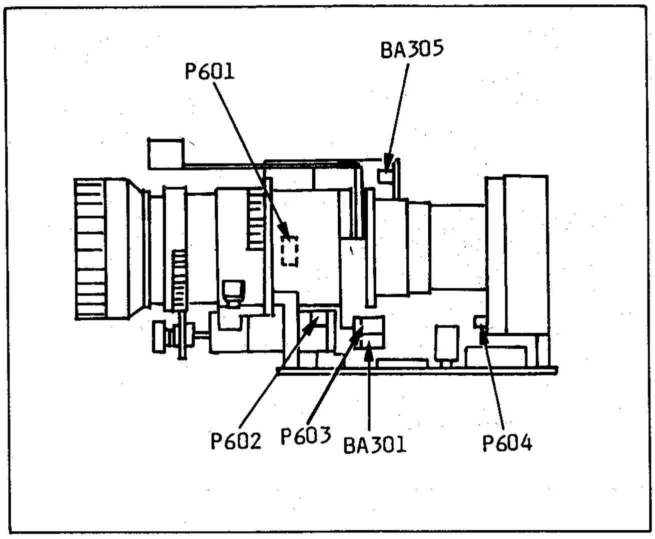

BA305
P601
P602
P603
BA301
P604

Fig. D14

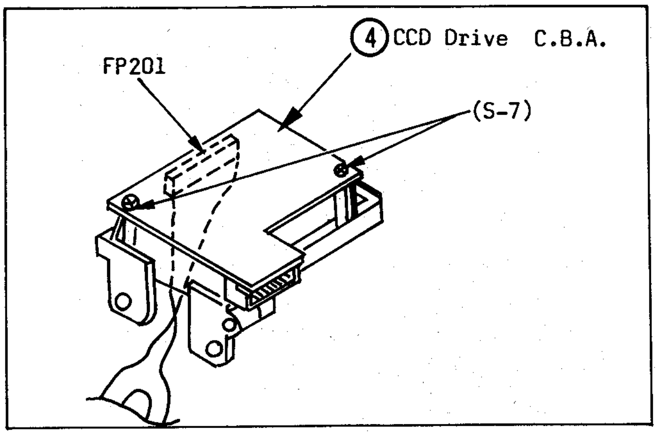

④CCD Drive C.B.A.
FP201
(S-7)

Fig. D15

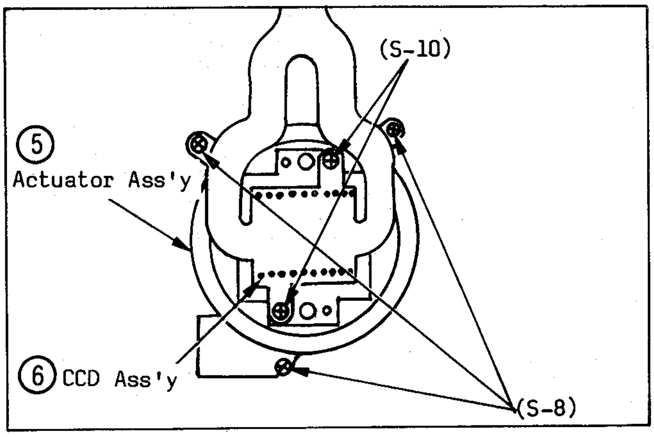

(S-10)
⑤
Actuator Ass'y
⑥CCD Ass'y
(S-8)

Fig. D16

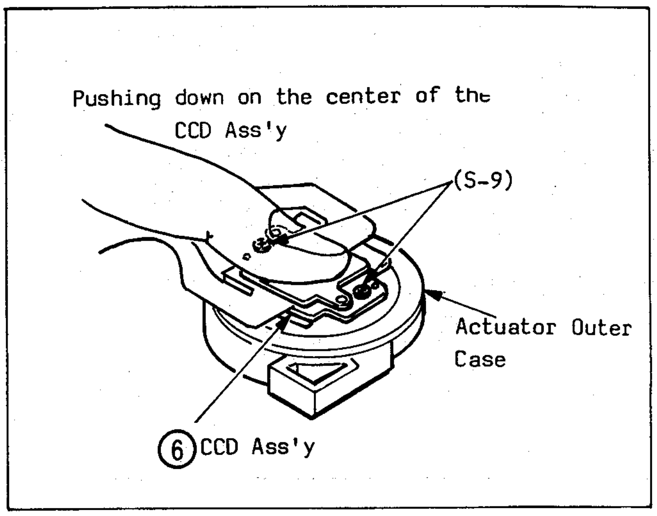

Pushing down on the center of the CCD Ass'y
(S-9)
Actuator Outer Case
⑥CCD Ass'y

Fig. D17

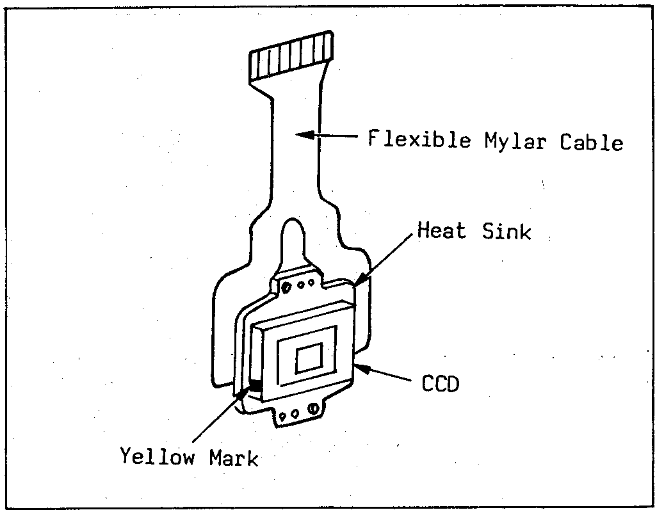

Flexible Mylar Cable
Heat Sink
CCD
Yellow Mark

Fig. D18

Reference's <Notes> in Table 2-2:

(1-1) Put the CCD Ass'y and the Actuator Ass'y on the worktable.
(1-2) Do not touch the CCD window surface.
(1-3) Do not touch the Actuator Outer Case during removal or installation of the CCD Ass'y.

Installation of CCD Ass'y

To complete the reassembly, reverse the previous disassembly steps.

Parts to be replaced related to the CCD Ass'y

The CCD Ass'y, Heat Sink and Flexible Mylar Cable are available. The CCD by itself is not available because it is a part of the CCD Ass'y.

(1-1) If the CCD is damaged, replace its Ass'y with a new CCD Ass'y.
(1-2) If the Flexible Mylar Cable or the Heat Sink is damaged, but the CCD is normal, replace the damaged part with a new part. Carefully resolder the lead pins on the CCD. Retighten 2 Screws (S-9) while positioning the CCD in the center of its movable range on Heat Sink.

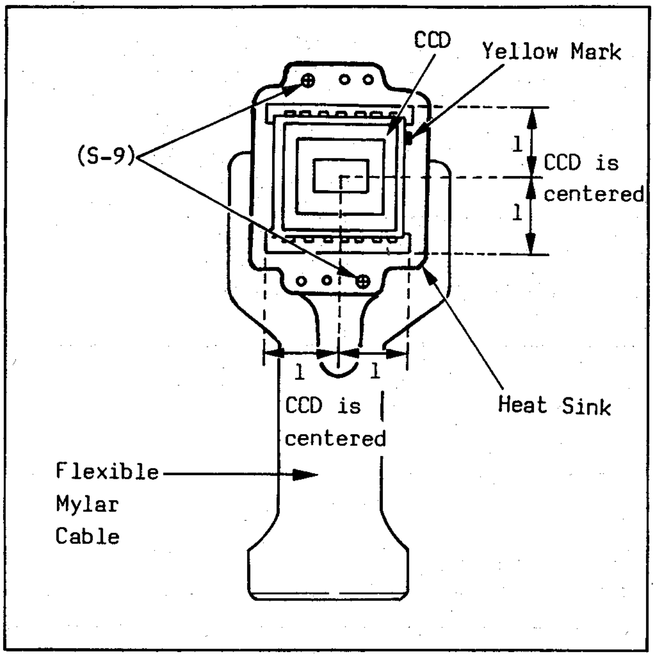


Fig. D19-1

(1) Do not apply heat to the CCD when unsoldering or resoldering.
(2) After reassembly of the CCD Assembly, reinstall it in the repaired camera.
(3) Position the camera horizontally and project a picture on the Video Monitor.
(4) Check that the picture on the Video Monitor is horizontal.
(5) If it is not, repeat steps 1–2.

Note:
There is a Yellow Mark on the CCD. The Flexible Mylar Cable should be installed so that the cable is located on that side.

[Example]
If the picture is tilted down to the right, loosen 2 Screws (S–10), refer to Fig. D16 and D19–2, turn the CCD counterclockwise to correct the picture's tilt and then retighten 2 Screws (S–10).

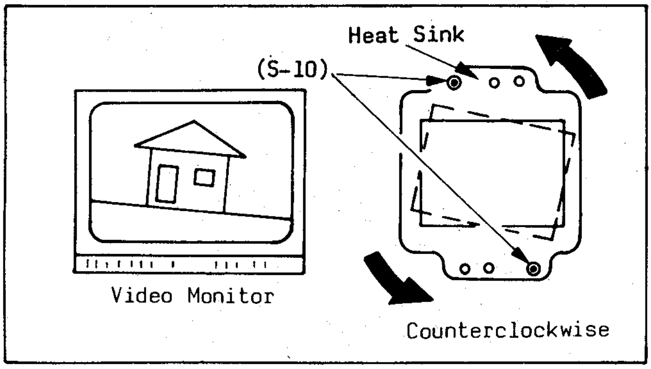


Fig. D19-2

Note:
(1) After replacement of the CCD, confirm or readjust the following controls.

A. BACK FOCUS ADJUSTMENT
B. CCD OUTPUT ADJUSTMENT
C. BLOOMING (SMEARING) ADJUSTMENT
D. AUTO IRIS ADJUSTMENT
E. AGC ADJUSTMENT
F. PEDESTAL LEVEL ADJUSTMENT
G. YH LEVEL ADJUSTMENT
H. CARRIER BALANCE AND BLACK PEDESTAL ADJUSTMENT
I. WHITE BALANCE ADJUSTMENT
J. COLOR PHASE AND R–Y/B–Y GAIN ADJUSTMENT
K. HIGH INTENSITY SUPPRESS ADJUSTMENT
L. AUTO WHITE BALANCE MODE ADJUSTMENT
M. LOW LIGHT INDICATION ADJUSTMENT
N. AWT MODE ADJUSTMENT
O. H–OSC ADJUSTMENT
P. FOCUS ADJUSTMENT
Q. CENTERING ADJUSTMENT
R. V. SIZE ADJUSTMENT
S. BRIGHTNESS ADJUSTMENT
T. AF GATE ADJUSTMENT
U. F VALUE BIAS GAIN ADJUSTMENT
V. AF VH FREQUENCY ADJUSTMENT

(2) Before reinstalling, clean the IR Cut Filter with Lens Cleaning Materials. If the Crystal Filter Plate is removed from the front of the CCD Assembly, replace it with the IR Cut Section (Blue portion) positioned toward the CCD Ass'y. Ensure that the Filter Rubber is mounted on Item 22 before installation of Item 22.

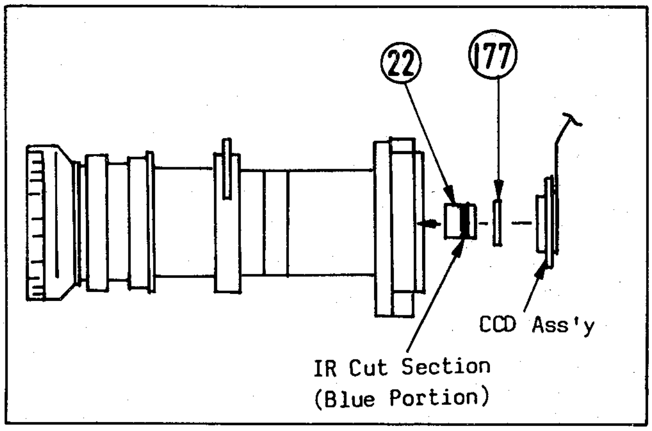


Fig. D20

2-1-4. CAMERA SECTION 2

Step /Loc No.	Part	REMOVAL		
		Fig. No.	Remove *UNLOCK/RELEASE/ UNPLUG/UNCLAMP	Note
①	Zoom Motor/ AF Motor	D21	4(S-1)	
②	AWT Sensor	D13	2(S-11)	
③	IRIS Motor Unit	D22	(S-2)	

List of Abbreviations:
4(S-1) = 4 Screws (S-1)

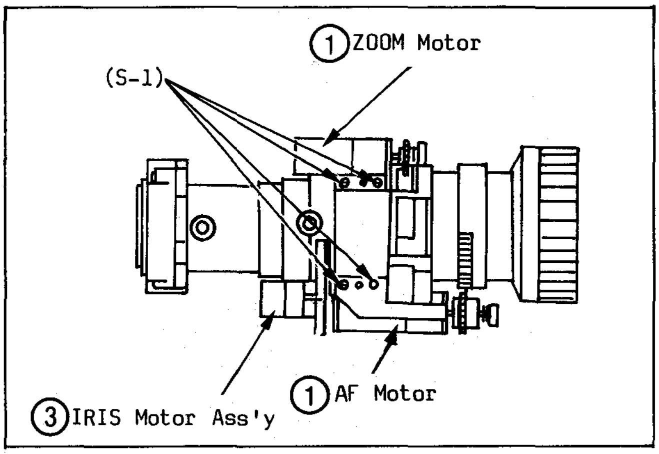

①ZOOM Motor
(S-1)
③IRIS Motor Ass'y
①AF Motor

Fig. D21

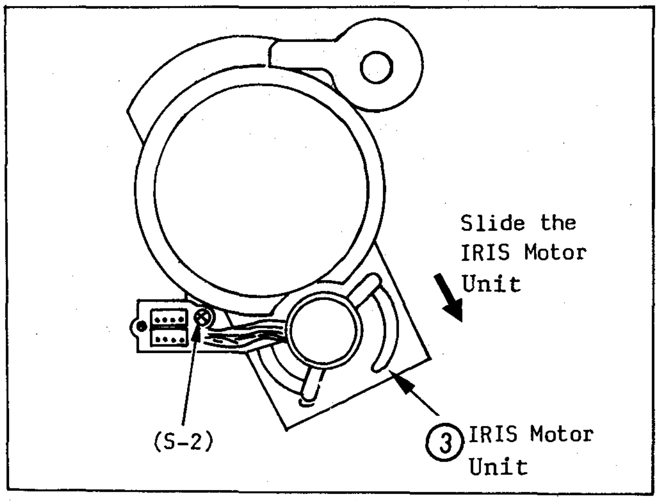

Slide the IRIS Motor Unit
(S-2)
③IRIS Motor Unit

Fig. D22

2-1-5. E.V.F. SECTION

Step /Loc No.	Part	REMOVAL		
		Fig. No.	Remove *UNLOCK/RELEASE/ UNPLUG/UNCLAMP	Note
①	Bottom Case	D23	2(S-1), (S-2) Cable Holder	
②	CRT Ass'y	D24	------------	
③	DY Ass'y	D25	CRT Socket	

List of Abbreviations:
2(S-1) = 2 Screws (S-1)

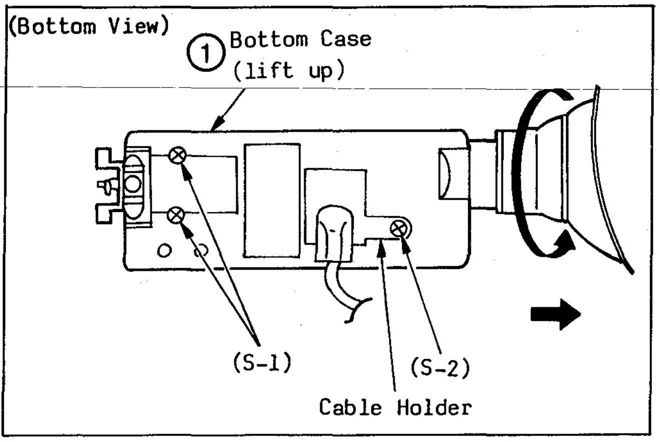

(Bottom View)
①Bottom Case (lift up)
(S-1)
(S-2)
Cable Holder

Fig. D23

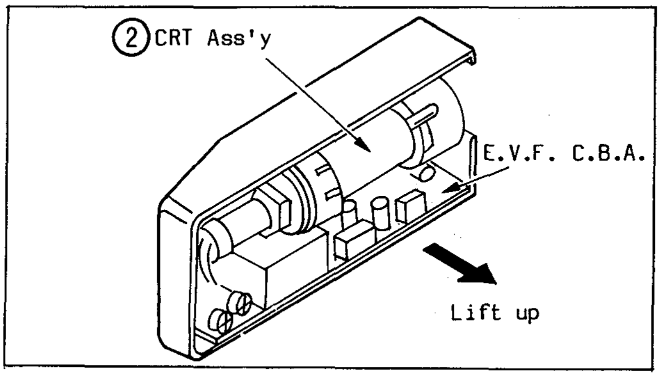

②CRT Ass'y
E.V.F. C.B.A.
Lift up

Fig. D24

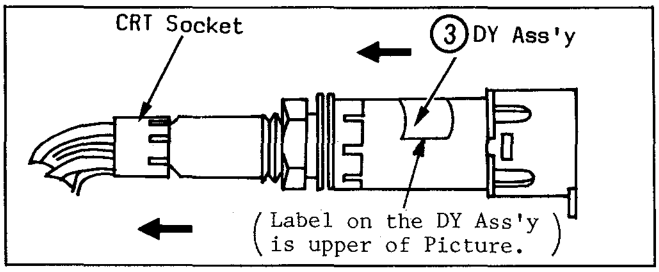

CRT Socket
③DY Ass'y
(Label on the DY Ass'y is upper of Picture.)

Fig. D25

2-2. PROCEDURE FOR CLEANING UPPER CYLINDER UNIT

(1) Position the Video Head to permit access for cleaning, and hold the Upper Cylinder to keep it from turning while cleaning.
(2) Gently rub the Video Head in the direction of tape travel with a Head Cleaning Stick (VFK27) moistened with Freon TF.
(3) Repeat for the other Video Heads.

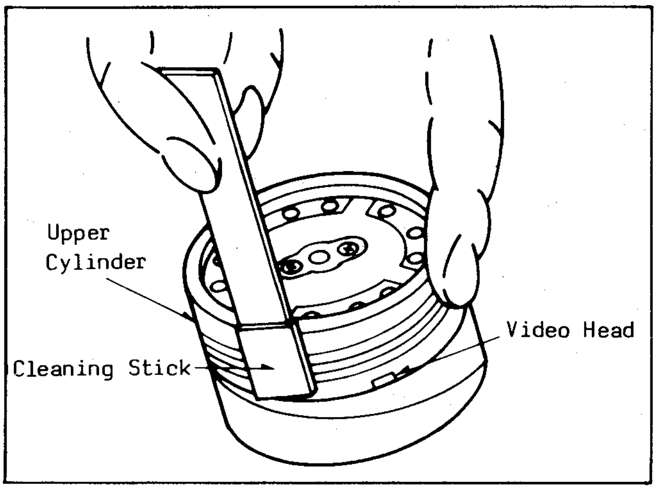

Upper
Cylinder
Video Head
Cleaning Stick

Fig. U1

Note:
(1) Do not rub vertically.
(2) Do not apply any pressure to the head. If the contaminant is not easily removed, continued gentle wiping will usually remove it.

2-3. REPLACEMENT AND ADJUSTMENT PROCEDURES

2-3-1. REPLACEMENT OF UPPER CYLINDER UNIT

* Work with extreme care when removing or replacing the Upper Cylinder Unit.
* Do not touch Video Heads and Flying Erase Head.

(1) REMOVING THE UPPER CYLINDER UNIT

a. Remove the 2screws as shown in fig.M1.
b. Unsolder the 10 solderd portions indicated by arrows on circuit board.
c. Remove the upper cylinder Unit by lifting it upwards.

Note:
Soldered portion can be easily removed by using solder sucking wire,etc.

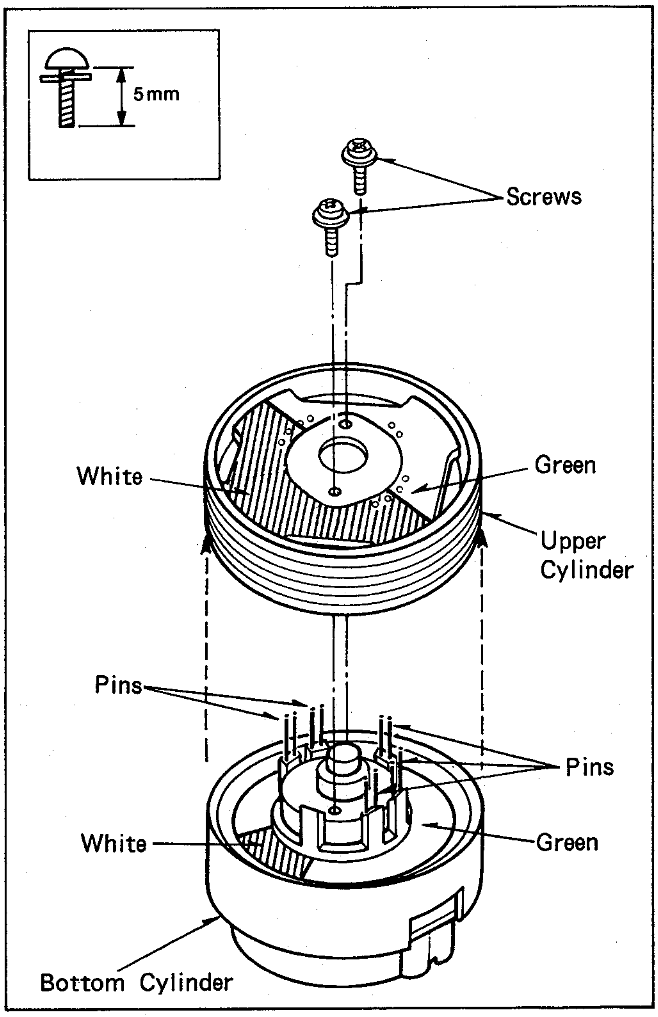

5mm
Screws
White
Green
Upper
Cylinder
Pins
Pins
White
Green
Bottom Cylinder

Fig.M1

Note:
Before reinstalling a new unit, clean the D.D. Cylinder Shaft and the surface that engages with the Upper Cylinder, with a soft cloth dampened with Freon TF in Fig. M4.

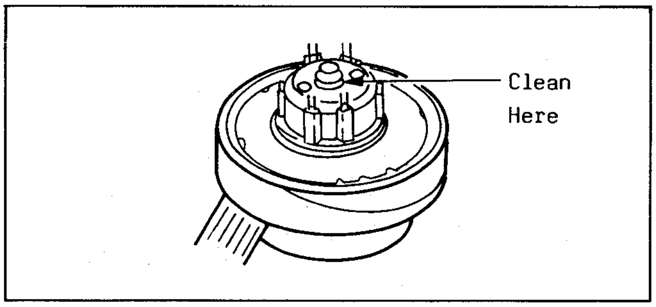


Fig. M2

(2) REIMSTALLING THE UPPER CYLINDER UNIT

The upper cylinder unit can be reinstalled by reversing the removal procedure.However,when reinstalling ,it must be extremly careful so that both the white and green portions of Circuit Board on upper cylinder unit will correctly match the white and green portions of the Circuit Board on bottom cylinder as shown in Fig.M3.

Note:
If the upper cylinder unit is reversely installed ,no colour will appear when playing back a pre-recorded tape by another VTR.

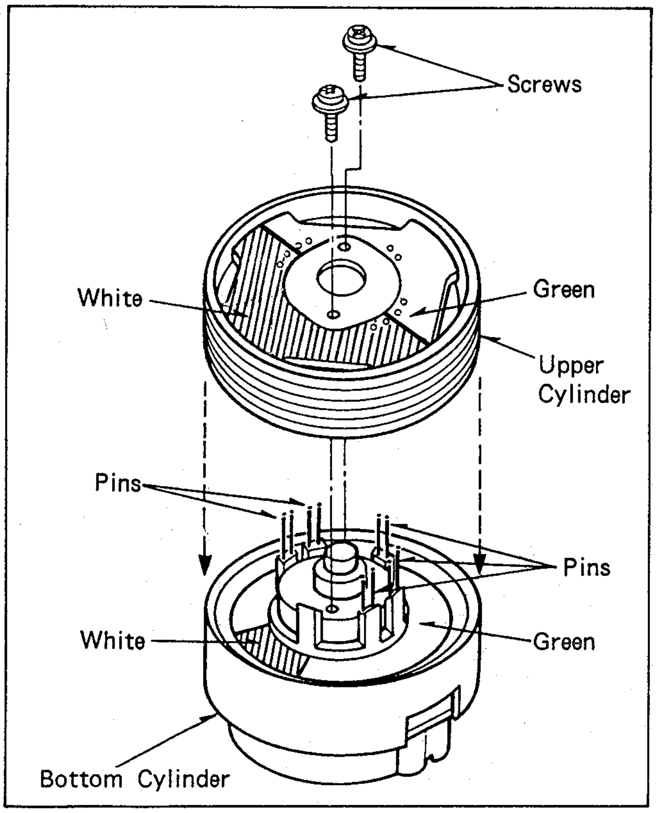


Fig. M3

2-3-2. REPLACEMENT OF D.D. CYLINDER UNIT

Work with extreme care when removing or replacing the D.D. Cylinder Unit. Do not touch Video Heads during servicing.

(1) Unlock Flexible Cables P2 on the Head Amp Ass'y. and P15 on the Capstan/Cylinder Motor Drive C.B.A.
(2) Remove Screw (A) and the Grounding Plate.
(3) Remove 3 Screws (B) and then lift the D.D. Cylinder Unit slowly from the top side.

Note:
a. Do not pull on the flexible cables coming from the D.D. Cylinder Unit.
b. Since there is very little clearance between D.D. Cylinder Unit and Chassis, remove the D.D. Cylinder Unit gently and carefully.

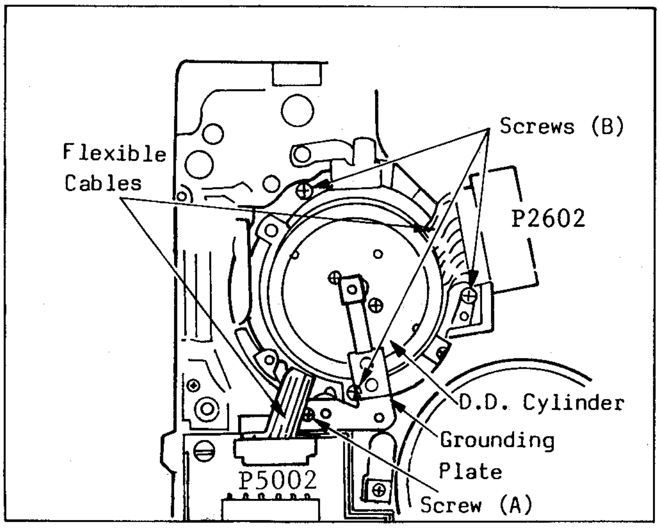


Fig. M4

(5) Reinstall the new D.D. Cylinder Unit on the chassis by reversing the procedure described above.

Note:
a. Upon completion of replacement procedure, confirm performance. If any further maintenance is required, perform "TAPE INTERCHANGEABILITY" with the Alignment Tape (VFM8180H8PF).

2-3-3. REPLACEMENT OF CAPSTAN MOTOR UNIT

(1) Ensure Unit is in the STOP mode. Remove the Capstan Belt.
(2) Unlock Flexible Cable P2603 on the Capstan/Cylinder Motor Drive C.B.A.

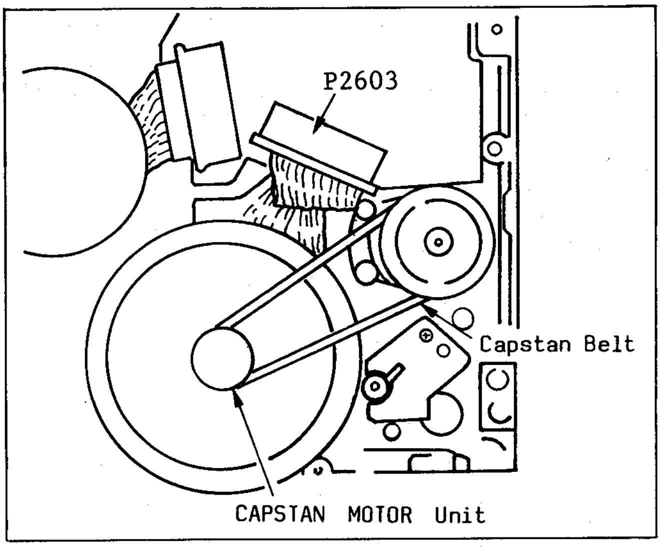

P2603
Capstan Belt
CAPSTAN MOTOR Unit

Fig. M5

(3) Remove the Cassette Up Holder, Head Amp Holder and Mode Select Switch Unit.
(4) Take out the Idler Gear while pushing on the Tape Guide Lever Unit until it clears the Idler Gear Teeth as shown in Fig. M6.

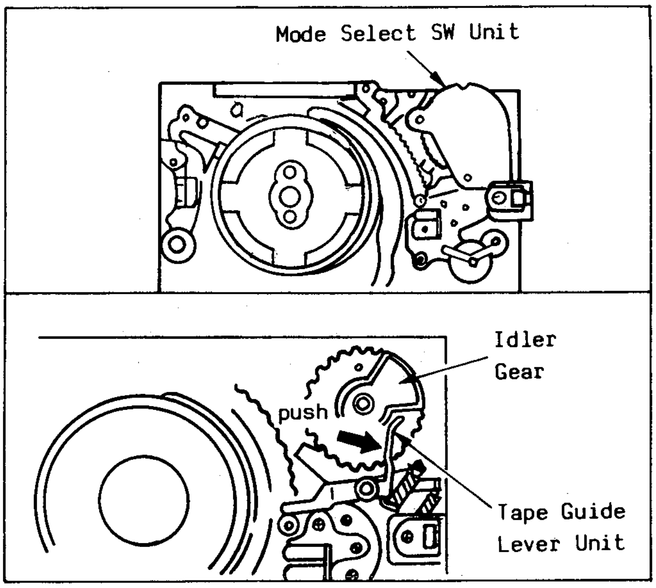

Mode Select SW Unit
Idler Gear
push
Tape Guide Lever Unit

Fig. M6

(5) Remove 2 Screws (B). Then remove Screw (C) while slightly pushing on the Sector Gear Unit to reveal Screw (C) as shown in Fig. M7. Then remove the A/C Head Base Unit.

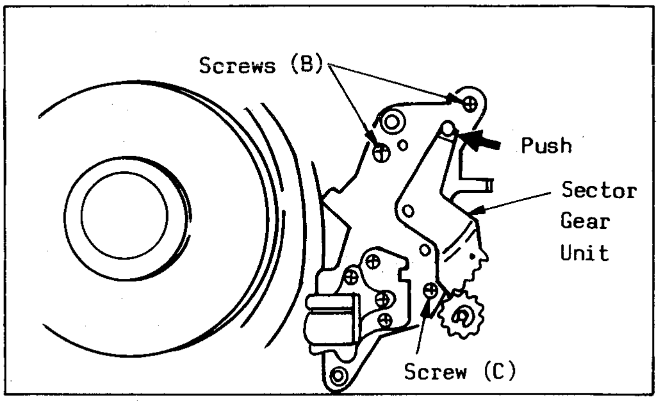

Screws (B)
Push
Sector Gear Unit
Screw (C)

Fig. M7

(6) Remove the Cut Washer and Motor Gear. Then place the Unit in play position completely by rotating Loading Idle Gear clockwise as shown in Fig. M8.

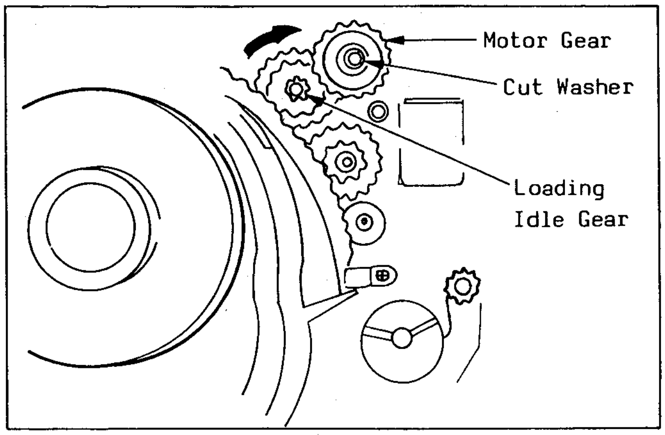

Motor Gear
Cut Washer
Loading Idle Gear

Fig. M8

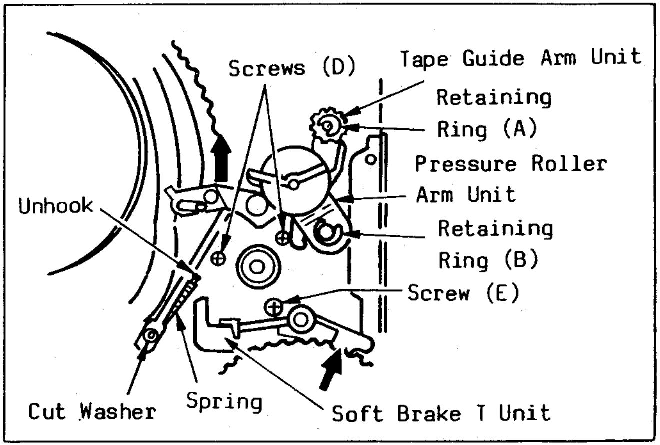

Screws (D)
Tape Guide Arm Unit
Retaining Ring (A)
Pressure Roller Arm Unit
Unhook
Retaining Ring (B)
Screw (E)
Cut Washer
Spring
Soft Brake T Unit

Fig. M9

(7) Remove Retaining Ring (A) and Tape Guide Arm Unit by pushing it in the direction shown by arrow and lifting it off its Post.
(8) Remove the Cut Washer and unhook the Spring.
(9) Remove Retaining Ring (B) and Pressure Roller Arm Unit.
(10) Refer to the Disassembly/Assembly and Adjustment Procedures of Mechanism on page 2–16. Use steps 3, 4 and 5 to remove the Takeup Reel Gear, Clutch Gear Unit and Soft Brake T Unit.
(11) Remove 2 Screws (D) and Screw (E) while pushing slightly on the Soft Brake T Unit.Then remove the Capstan Stator Unit from Bottom Side.
(12) Replace the new Capstan Motor Unit and then tighten 2 Screws (D) and Screw (E).

Adjustment of FG Head Gap

* Specification: .... 0.1~0.15mm
(1) Slightly loosen the 2 screws.
(2) Put the paper which is used for cover page of this volume into the gap between F.G.Head and Capstan rotor.
(3) Afer adjustment, tighten 2 screws.

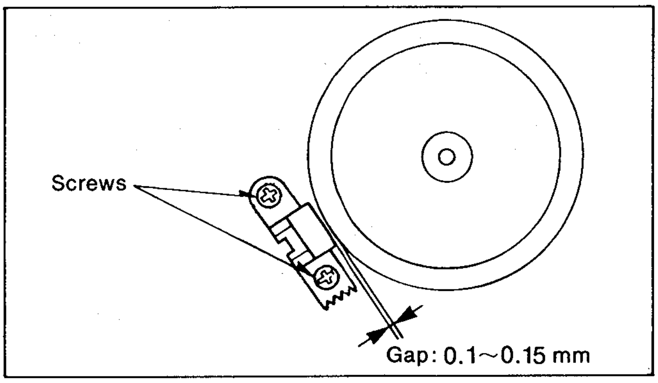

Screws
Gap: 0.1~0.15 mm

Fig. M10

Note:
Do not touch the surface of rotor and keep any magnetizable material away.

2-3-4. ADJUSTMENT OF TENSION POST POSITION

(1) Remove the Cassette Up Unit.
(2) Cover the Tape End Sensor and Cassette Up/Down Sensor with Black Tape.
(3) Push the Play button to complete loading operation sequence.
(4) As soon as loading is completed, disconnect the AC plug of AC Adaptor.
(5) Loosen Screw (F) a little bit and adjust the Tension Adjust Piece (in either direction) as indicated by the arrow so that the center of the Tension Post is 1mm to the left of the center of the S1 Post as shown in Fig. M11. Tighten Screw (F) to secure it.

Note:
After this adjustment, reposition Tension Spring on Loading Guide Teeth to middle position as a Back Tension Adjustment as shown in Fig. M11.

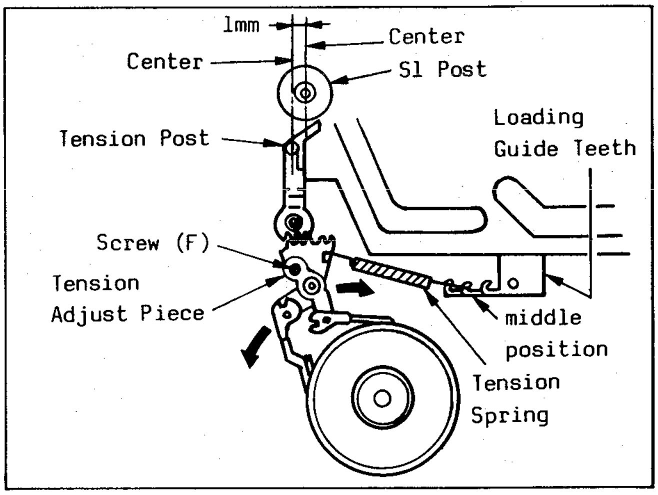

1mm
Center
Center
S1 Post
Loading Guide Teeth
Tension Post
Screw (F)
Tension Adjust Piece
middle position
Tension Spring

Fig. M11

2-3-5. HEIGHT ADJUSTMENT OF TAPE GUIDE POST (PRELIMINARY ADJUSTMENT)

Height Adjustment of S1 Post

* Specification: .... 14.72+–0.1mm

(1) For adjustment of S1 post height, turn 4mm Nut (A) slightly in either direction as necessary to the correct clearance between the upper edge of the lower tape guide on S1 Post and the lower portion of Cassette Stand S Unit.

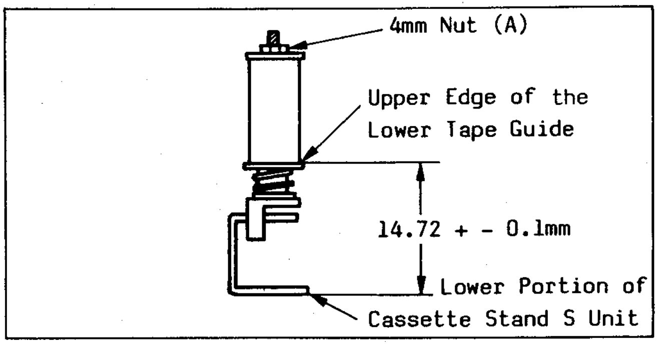

4mm Nut (A)
Upper Edge of the Lower Tape Guide
14.72 + - 0.1mm
Lower Portion of Cassette Stand S Unit

Fig. M12

Height Adjustment of S2 Post and T1 Post

* Specification:
S2 Post .... 0.56+–0.1mm
T1 Post .... 0.74+–0.1mm

(1) For adjustment of S2 and T1 post height, loosen the Black Lock Screw located on the lower portion of Posts (S2 & T1) using the Lock Screwdriver .
(2) Turn top of post with Hex. Wrench (1.5mm) slightly in either direction as necessary to the correct clearance as shown in Fig. M13.

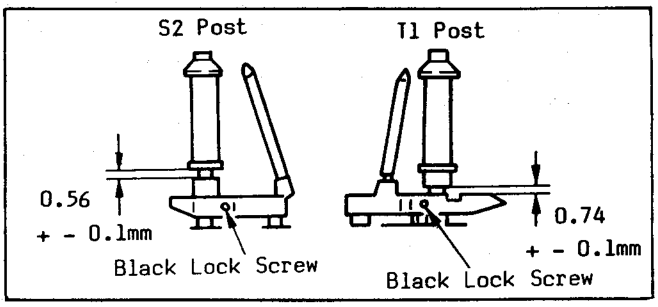

S2 Post
T1 Post
0.56
+ - 0.1mm
Black Lock Screw
0.74
+ - 0.1mm
Black Lock Screw

Fig. M13

2-3-6. TAPE INTERCHANGEABILITY ADJUSTMENT (FINAL ADJUSTMENT)

Note:

1) To perform these adjustment/confirmation procedures, make sure that the Tracking Control is set in the fixed (neutral) positionby pushing both of the Tracking Control Up/Down Switches, on the Main C.B.A., in at the same time.
2) Before these adjustment/confirmation procedures, remove the cassette protective Tape Cover from a Cassette Tape or the Alignment Tape (VFM8180H3PF).

* Equipment Required:
Dual Trace Oscilloscope
Alignment Tape .... (VFM8180H3PF)
Hex. Wrench (1.5mm)

1. Confirmation of Tape Travel

(1) Play back a cassette tape and confirm that the tape travels without curling at the upper and lower guides on Posts S2 and T1.

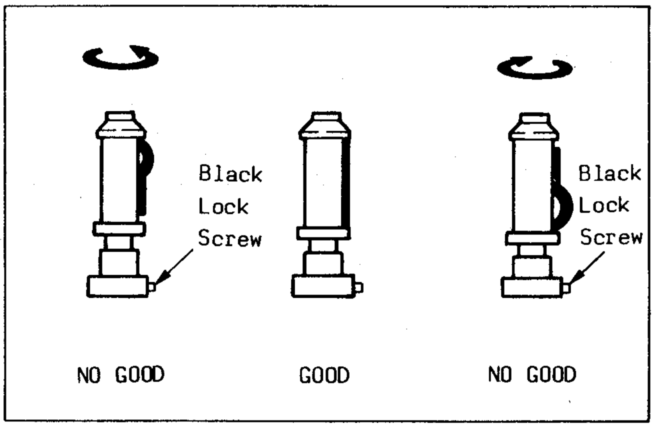

Black
Lock
Screw
Black
Lock
Screw
NO GOOD
GOOD
NO GOOD

Fig. M14

(2) If curling is apparent, adjust the height of posts by turning the top of Post with Hex. Wrench. (for S2 and T1)

Note:
Before turning S2 and T1, slightly loosen the Black Lock Screw using the Lock Screwdriver.

2. Confirmation of A/C Head Height

This confirmation is required when the A/C Head or Capstan Motor is replaced and for a preliminary height adjustment.
For final adjustment, perform items 6–3 and 6–4.

(1) Looking at the lower edge of the Control Head with the tape in motion, ensure that the lower edge of the tape runs 0.25mm above the lower edge of the Control Head. If it doesn't, turn Black Screw (A) slightly in either direction as necessary to correct it. Turn clockwise to lower the head and counterclockwise to raise it.

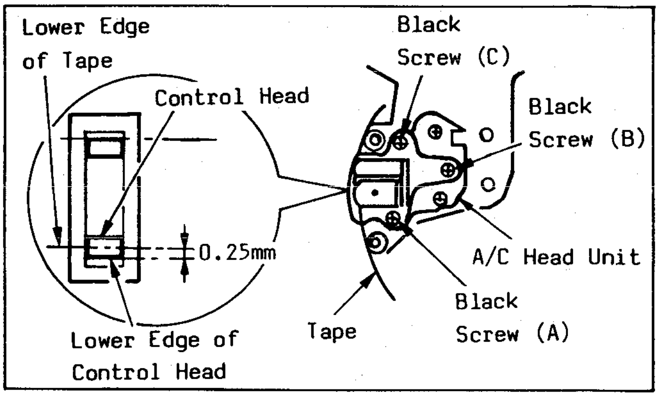

Lower Edge
of Tape
Control Head
0.25mm
Lower Edge of
Control Head
Tape
Black
Screw (C)
Black
Screw (B)
A/C Head Unit
Black
Screw (A)

Fig. M15

3. Confirmation of Tilt of A/C Head

(1) Play back a cassette tape and confirm that the tape runs properly between lower and upper limits of T3 Post. Also confirm that the tape is running smoothly.

(2) If adjustment is required, turn Black Screw (B), in Fig. M15, counterclockwise until curling is apparent at lower edge of T3 Post. Then turn Black Screw (B) clockwise until the curling smoothes out.

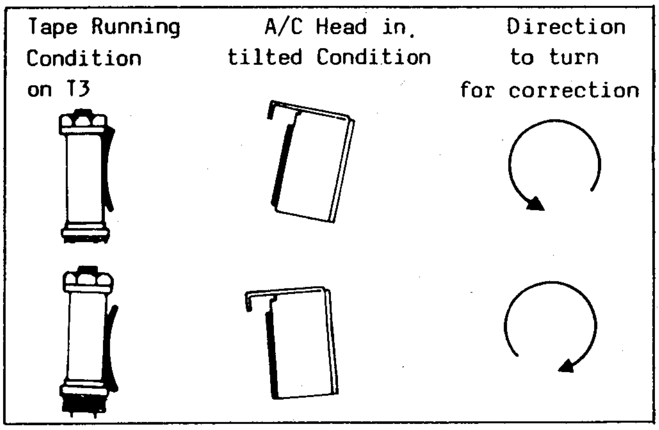

Tape Running
Condition
on T3
A/C Head in,
tilted Condition
Direction
to turn
for correction

Fig. M16

4. Height and Azimuth Adjustment of A/C Head

(1) Connect the oscilloscope to TP4001 on the Main C.B.A.
(2) Play back the Monoscope portion (6KHz, Mono) of the Alignment Tape.
(3) Adjust Black Screw (C) on the A/C Head Base in Fig. M15 so that the output level is at a maximum.

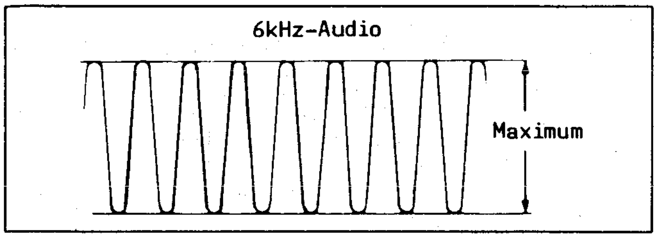


Fig. M17

(4) Readjust Black Screw (A) shown in Fig. M15 for maximum output.
(5) Disconnect the oscilloscope.

5. Horizontal Position Adjustment of A/C Head

(1) Set the tracking control to the fixed (neutral) position by pushing both of the tracking control Up/Down Switches, on the Main C.B.A., in at the same time. Connect the oscilloscope to TP3501 on the Main C.B.A. Use TP2001 as a trigger.
(2) Play back the monoscope portion of the Alignment Tape and confirm that RF envelope appears, as in Fig. M19.
(3) If adjustment is required, loosen 2 Black Screws (D) and then slowly move the A/C Haed Base back and forth using a screwdriver so that the envelope is at a maximum.

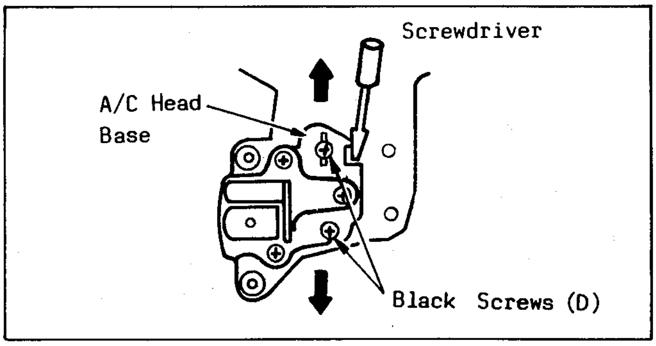


Fig. M18

(4) Confirmation of the correct adjustment can be made by alternately pushing the Tracking Control Up/Down Switches, on the Main C.B.A. to check the symmetry of the envelope.
(5) Trghten 2 Black Screws (D).
(6) Reconfirm the symmetry of the envelope. If it has changed, repeat steps 3–5.

6. Confimation/Adjustment of Envelope Output

(1) Set the tracking control to the fixed (neutral) position by pushing both of the tracking control Up/Down Switches, on the Main C.B.A., in at the same time. Connect the oscilloscope to TP3501 on the Main C.B.A. Use TP2001 as a trigger.
(2) Playback , the Monoscope portion of the Alignment Tape and adjust the height of posts S2 and T1 watching the scope display so that the envelope becomes as flat as possible. (V1/V–max >= 0.7, V2/V–max >= 0.8)
If adjustment is required, turn top of post with Hex. Wrench (1.5mm). For adjustment of S2 and T1, refer to Item 6–1 and it's Note.

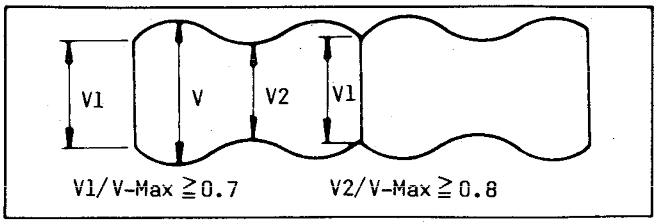


Fig. M19

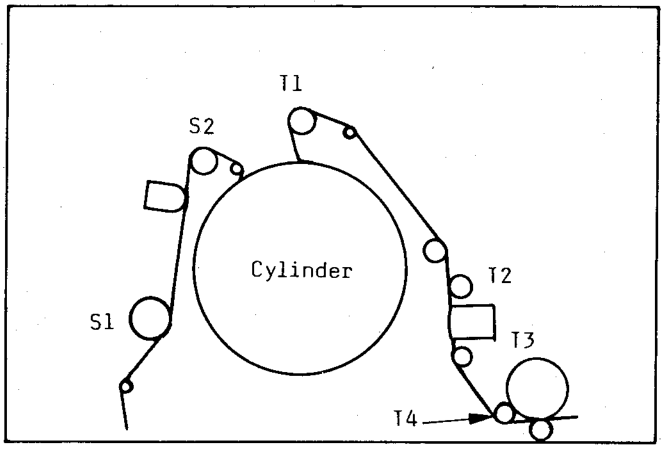


Fig. M20

(3) When the scope display is as shown in Fig. M21, adjust the height of S2 so that the waveform looks like Fig. M23.

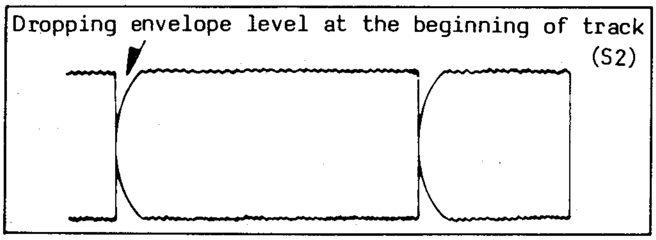


Fig. M21

(4) When the scope display is as shown in Fig. M22, adjust the height of T1 so that the waveform looks like Fig. M23.

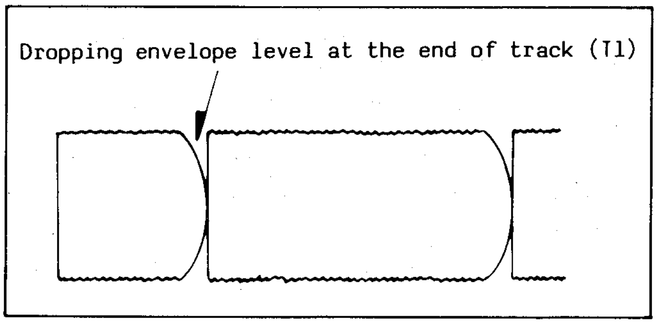


Fig. M22

(5) The scope display should appear as shown in Fig. M23 when S2 and T1 Posts are adjusted properly.

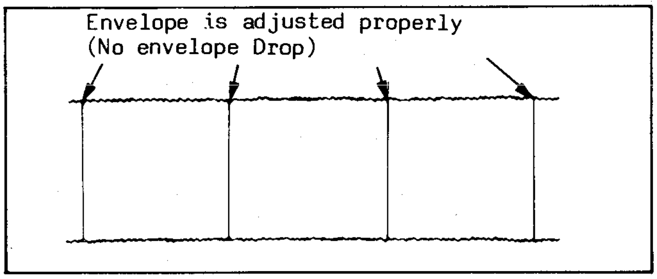


Fig. M23

Note:

1) Upon completion of adjustment of S2 and T1, tighten the Black Lock Screw on S2 and T1 using Lock Screwdriver. Then confirm the Horizontal Position of A/C Head by pushing the Tracking Control Up or Down switches on the Main C.B.A. alternately to check the symmetry of the envelope. And if required, perform "Horizontal Position Adjustment of A/C Head".
2) After these adjustment/confirmation procedures, replace the cassette protective Tape Cover.

2-3-7. ASSEMBLY AND ADJUSTMENT PROCEDURE OF MECHANISM

Note:
How to Read The Assembly and Adjustment Chart.

[Example: Mechanical part]

STEP /LOC No.	START-ING No.	PART		REMOVAL		INSTALLATION
				Fig. No.	REMOVE *UNHOOK/UNLOCK/RELEASE	ADJUSTMENT #CONDITION
①	1	GROUNDING PLATE	B	M27	*Shield Case-Top, *Connector P13, (S-1)	
②	1	D.D. CYLINDER UNIT	B	M27	3(S-2), Connectors	See, Replacement of D.D. Cylinder Unit.
③	3	TAKEUP REEL GEAR	T	M26,28	(C-1), <Note 1> (W-1)	
①	②	③	④	⑤	⑥	⑦

1 : Order of steps in Disassembly Procedure.
When ressembling, perform the step(s) in the reverse order. These numbers are also used as the identification (Location) No. of parts in Figures.
2 : Starting No. followed by corresponding part which can be removed at this stage.
3 : Part to be removed or installed.
4 : Location of part
T = Top B = Bottom
5 : Fig. No. showing Disassembly Procedure.

6 : Indentification of part to be removed, unhooked, unlocked, released, unplugged, unclamped or unsoldered.

C = Cut Washer P = Spring
R = Retaining Ring S = Screw
W = Washer
* = Unhook, unlock or release
3(S-2) = 3 Screws (S-2)

7 : Adjustment information for installation.
= Condition for adjustment.
* = Remark

This procedure starts with the condition that the Cabinet parts and Cassette Up Unit have been removed.
When re-assembling, perform the step (s) in the reverse order.

STEP /LOC No.	START-ING No.	PART		REMOVAL		INSTALLATION
				Fig. No.	REMOVE * UNHOOK/UNLOCK/RELEASE	ADJUSTMENT # CONDITION * REMARKS
①	1	D.D. CYL. UNIT	T/B	M25, 26	3 (S-0) * Connectors	* Remove the Earth Plate before Step ①
②	3	TAKEUP REEL GEAR	T	M24, 26	(C-1), (W-1) <Note 1>	
③	3	CLUTCH GEAR UNIT	T	M24, 26	(C-2), (W-2) <Note 1>	
④	4	SOFT BRAKE T UNIT	T	M24, 26	(C-3), * (P-1) <Note 1>	
⑤	6	HEAD AMP ANGLE	T	M27	2 (S-2), (S-3) * Connector	* Remove the LP Head amp Unit before Step ⑤.
⑥	6	MODE SELECT SWITCH UNIT	T	M24, 27	(S-3) * Connector	Align the Punch Mark with the Notch. # STOP MODE
⑦	6	TAPE GUIDE LEVER UNIT	T	M24, 27	(C-4), * (P-2) <Note 1>	See, Hooking Position.
⑧	7	IDLER GEAR	T	M24, 28	------------------------------	Align the Notch with the Shaft of Loading Idle Gear. # STOP MODE
⑨	8	SECTOR GEAR UNIT	T	M24, 28	------------------------------	Align the Hole with the Notch. # STOP MODE
⑩	9	A/C HEAD BASE UNIT	T	M24, 28	3 (S-4)	<Note 2>
⑪	10	MOTOR GEAR	T	M24, 29	(C-5) <Note 1>	# STOP MODE (Fig. M29)
⑫	11, 10	LOADING MOTOR UNIT	T	M29	2 (S-5)	<Note 2>
⑬	10	TAPE GUIDE LEVER UNIT	T	M24, 29	(R-1), * (P-3)	See, Hooking Position.
⑭	14	TENSION ARM UNIT	T	M24, 30	(C-6), (W-3) <Note 1>	See, Adjustment of Tension Post Position.Align the Punch Mark with the Notch. #Loading
⑮	15	SUPPLY REEL TABLE UNIT	T	M24, 30	(C-7), (W-4) <Note 1>	
⑯	15	TENSION BAND ARM UNIT	T	M24, 30	(C-8), * (P-4) <Note 1>	
⑰	16, 14	CASSETTE STAND S ASS'Y	T	M24, 31	2 (S-6), * Connector	<Note 2>

STEP /LOC No.	START-ING No.	PART		REMOVAL		INSTALLATION
				Fig. No.	REMOVE *UNHOOK/UNLOCK/RELEASE	ADJUSTMENT #CONDITION
⑱	18	SHIELD COVER	B	M25	(S-7)	
⑲	18,11, 10,2	LOADING GUIDE ASS'Y	T	M24, 32	6(S-8), *(L-1), *Connector	<Note 2> <Note 3> # Loading
⑳	19	TAKEUP SHAFT HOLDER ASS'Y	T	M24	(C-9)	<Note 1>
㉑	19	SUPPLY SHAFT HOLDER ASS'Y	T	M24	--------------	
㉒	19	V STOPPER BASE ASS'Y	T	M24	2(S-9)	
㉓	19,13	PRESSURE ROLLER ARM UNIT	T	M24, M33	(R-2),(C-10), *(P-5), <Note 1>	) See, Hooking Condition.
㉔	23,5	CAPSTAN MOTOR UNIT	T	M24, 25, M33	*Capstan Belt, 3(S-10), *Connector	<Note 2> See, Replacement of Capstan Motor Unit.
㉕	4	CASSETTE STAND-T	T	M24, M33	2(S-11)	<Note 2>
㉖	19	RING GUIDE 1	T	M34	(S-12)	See, setting condition.
㉗	19	RING GUIDE 3	T	M34	(S-13)	See, setting condition.
㉘	27,26, 21,20	LOADING RING S UNIT	T	M24, M34	--------------	Align the Hole with punch Mark.
㉙	28	LOADING DRIVE GEAR-T	T	M34	(C-11) <Note 1>	
㉚	28	RING GUIDE GEAR-S (2 USED)	T	M34	--------------	-------------- White Color Gear
㉛	31	RING LIMITER	T	M24, 35	(S-14)	
㉜	28	LOADING RING T UNIT	T	M34, M35	--------------	See, setting Condition. Align the Punch Mark with the Notch.
㉝	31	LOADING IDLE GEAR	T	M24, 35	--------------	Align the Punch Mark with the Notch.
㉞	32,28, 19	RING GUIDE GEAR-T (2 USED)	T	M35	--------------	Black Color Gear # STOP MODE
㉟	10	LOADING DRIVE GEAR-S	T	M34, M35	(C-12) <Note 1>	
(36)	33,32, 30,28	RING GUIDE-2	T	M34, M35	(S-15)	
(37)	32,28,22, 19,17	LOADING GUIDE-S UNIT	T	M36	3(S-16)	<Note 2>

List of Abbreviations:
T = Top, B = Bottom,
(R-1) = Retaining Ring (R-1); (P-1) = Spring (P-1); (S-1) = Screw (S-1)
(W-1) = Washer (W-1); 2(S-2) = 2 Screws (S-2); (C-1) = Cut Washer (C-1)
(L-1) = Locking Tab (L-1)

TOP VIEW

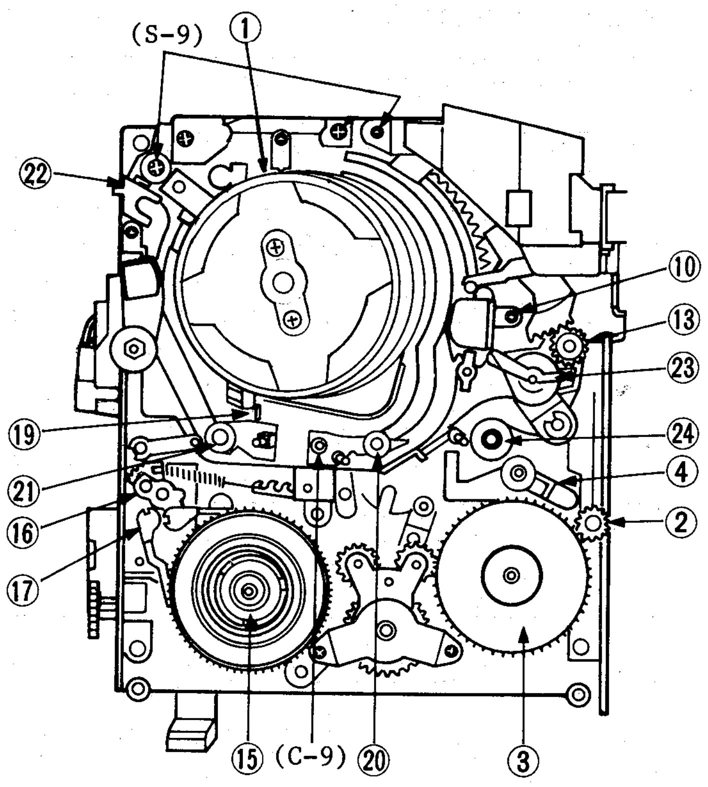

(S-9)
①
㉒
⑩
⑬
㉓
⑲
㉔
④
㉑
②
⑯
⑰
⑮
(C-9)
⑳
③

Fig. M24

BOTTOM VIEW

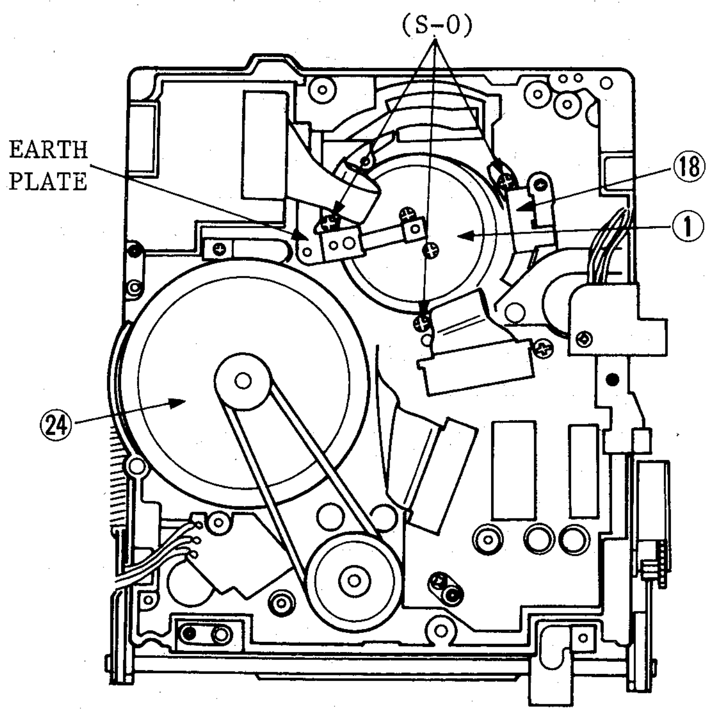

(S-0)
EARTH PLATE
⑱
①
㉔

Fig. M25

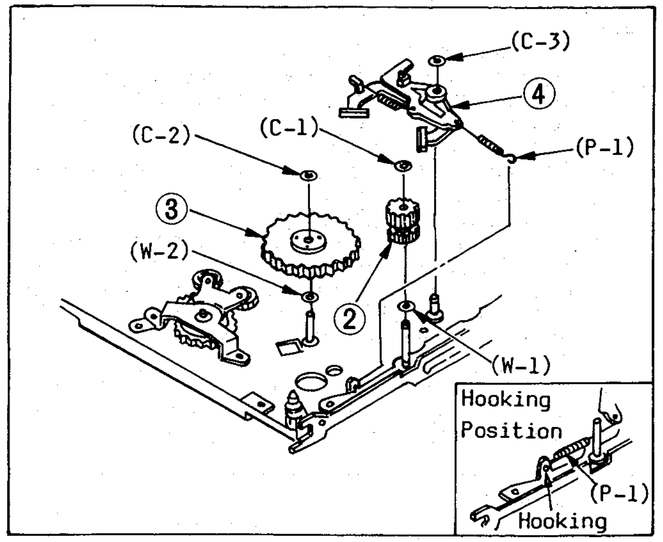

(C-3)
④
(C-2)
(C-1)
(P-1)
③
(W-2)
②
(W-1)
Hooking Position
(P-1)
Hooking

Fig. M26

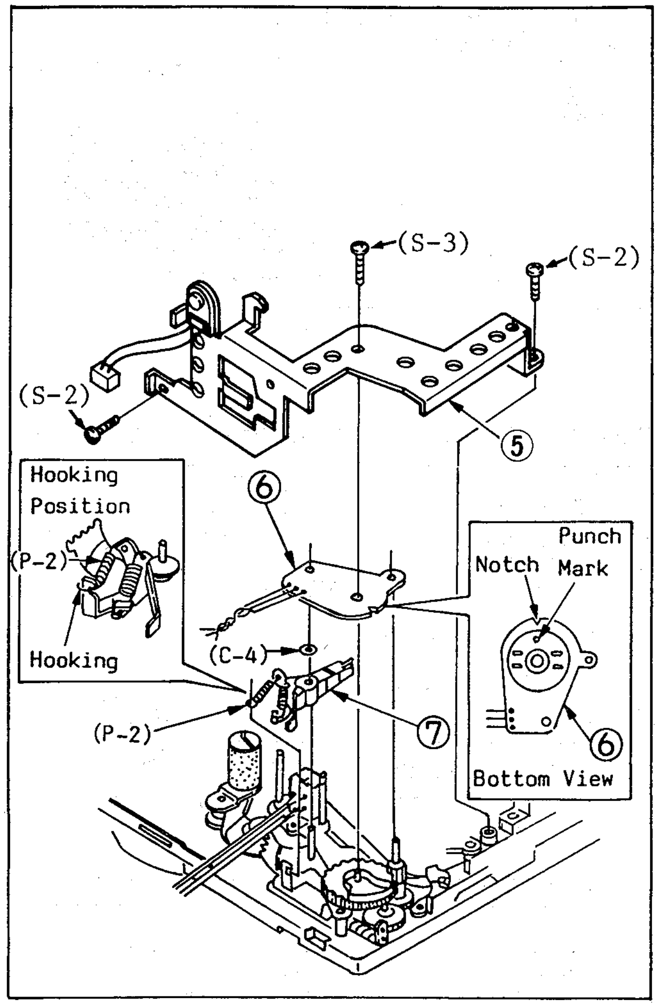

(S-3)
(S-2)
(S-2)
⑤
⑥
Hooking Position
(P-2)
Hooking
(C-4)
(P-2)
⑦
Notch
Punch Mark
⑥
Bottom View

Fig. M27

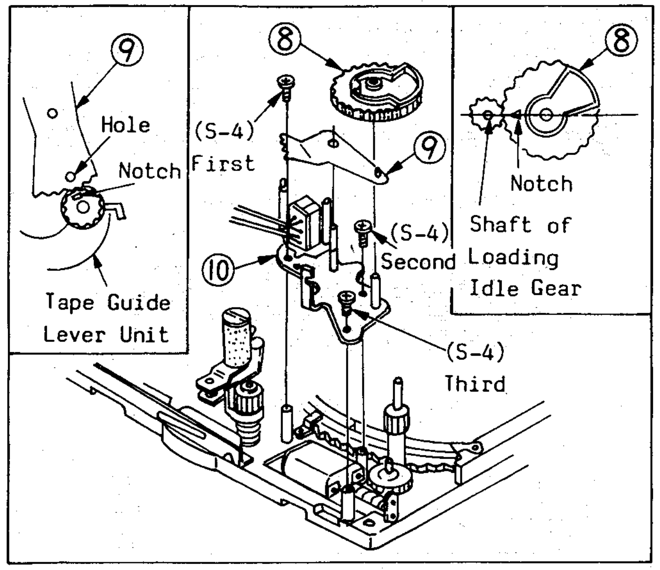
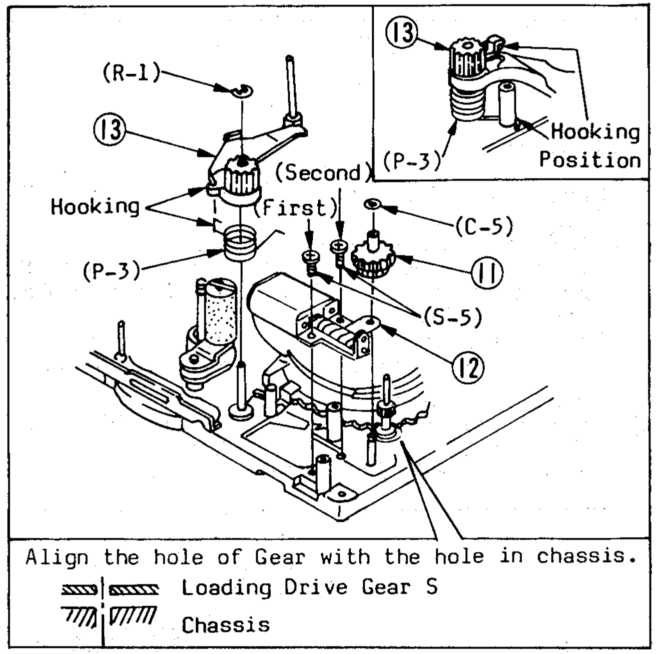

⑨
Hole
Notch
Tape Guide Lever Unit
⑧
(S-4) First
⑨
⑩
(S-4) Second
(S-4) Third
⑧
Notch
Shaft of Loading Idle Gear

Fig. M28


(R-1)
⑬
Hooking
(P-3)
(Second)
(First)
(C-5)
⑪
(S-5)
⑫
⑬
(P-3)
Hooking Position

Align the hole of Gear with the hole in chassis.

▨ Loading Drive Gear S

▨ Chassis

Fig. M29

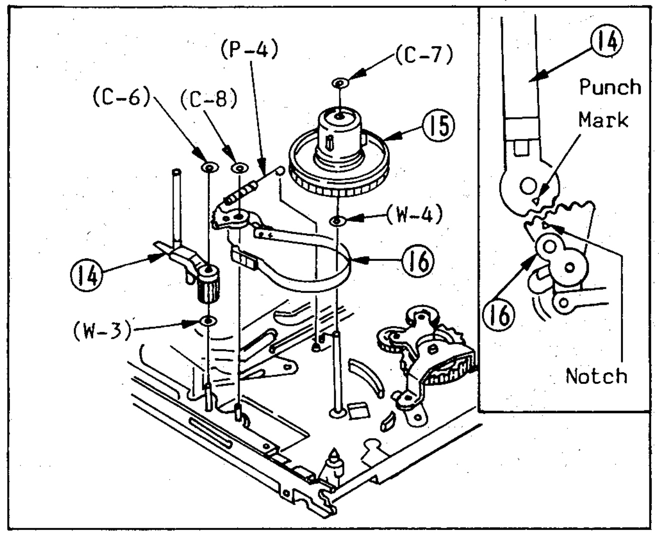

(P-4)
(C-7)
(C-6)
(C-8)
⑮
(W-4)
⑯
⑭
(W-3)
⑭
Punch Mark
⑯
Notch

Fig. M30

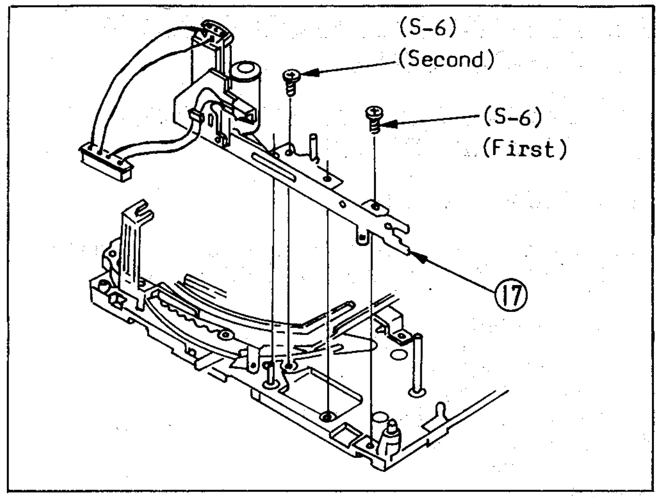

(S-6) (Second)
(S-6) (First)
⑰

Fig. M31

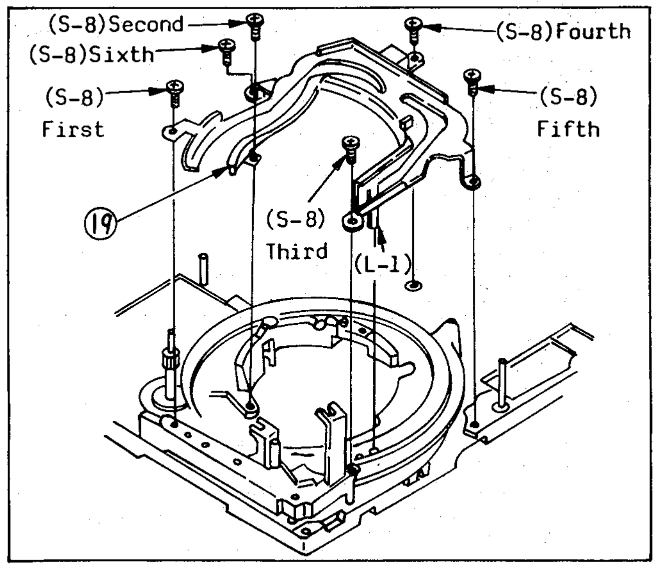

(S-8)Second
(S-8)Fourth
(S-8)Sixth
(S-8) First
(S-8) Fifth
⑲
(S-8) Third
(L-1)

Fig. M32

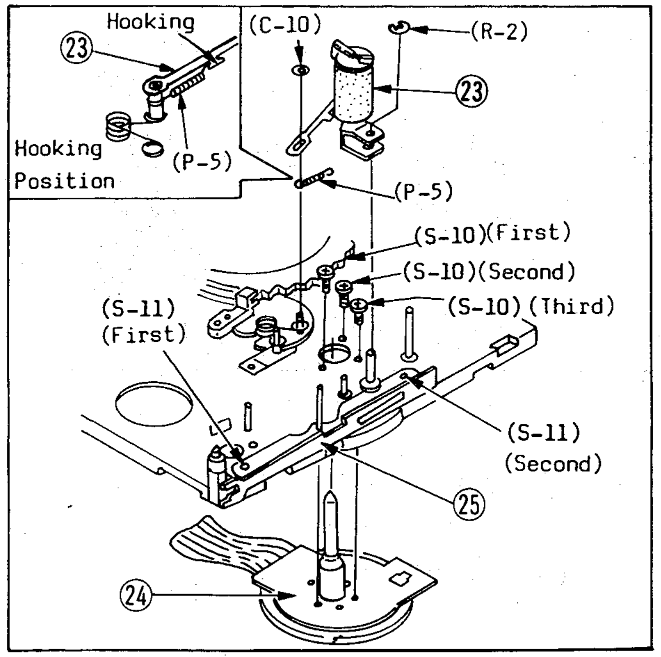

Hooking
㉓
(C-10)
(R-2)
㉓
Hooking Position
(P-5)
(P-5)
(S-10)(First)
(S-10)(Second)
(S-10)(Third)
(S-11) (First)
(S-11) (Second)
㉕
㉔

Fig. M33

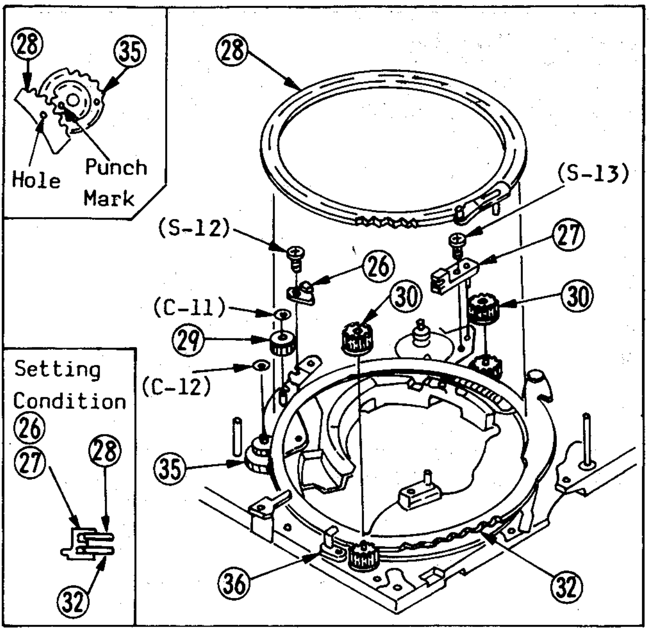
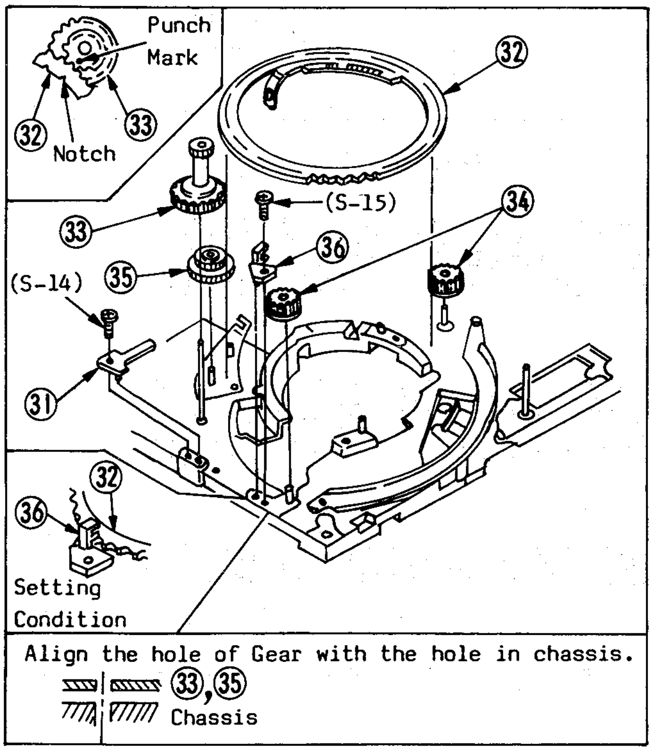

㉘
㉟
Hole
Punch Mark
㉘
(S-13)
(S-12)
㉗
㉖
㉚
㉚
(C-11)
㉙
Setting Condition
㉖
㉗
㉘
(C-12)
㉟
㊱
㉜
㉜

Fig. M34


Punch Mark
㉜
Notch
㉝
㉜
(S-15)
㉞
㉝
㊱
(S-14)
㉟
㉛
㉜
㊱
Setting Condition

Align the hole of Gear with the hole in chassis.

▨ ㉝,㉟

▨ Chassis

Fig. M35

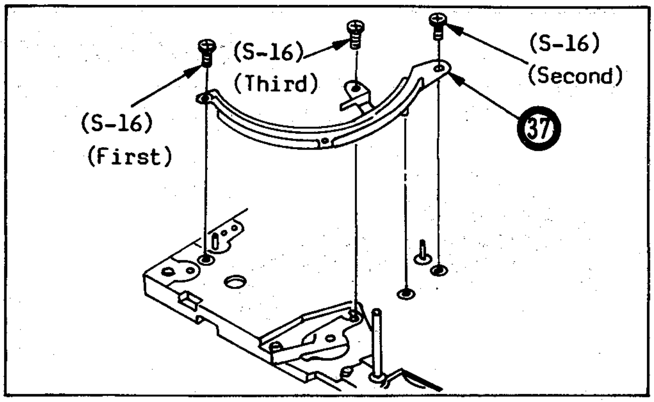

(S-16) (Third)
(S-16) (Second)
(S-16) (First)
㊲

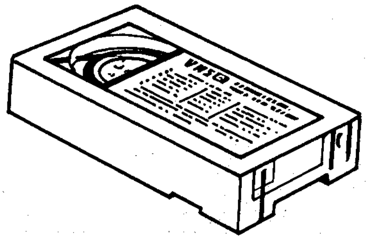
Fig. M36

Reference's <Notes> :

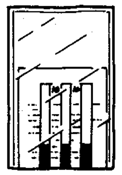
1. Cut Washer is not reusable. If removed, install a new one.
2. In each figure, tighten the screws in the order indicated in the diagram.
3. Remove the shield cover over the PG Pickup to allow the release of (L−1).

Service Fixtures & Tools

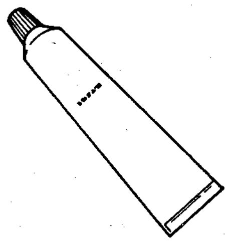
VFM8180H8PF VHS-C Alignment Tape



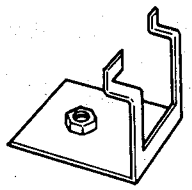
VFK27 Head Cleaing Stick



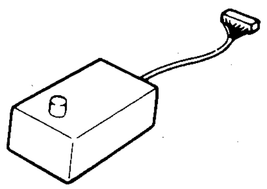
MOR265 Morlytone Grease



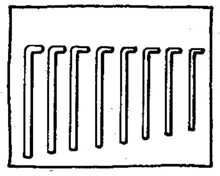
VFK0382 CAMERA HOLDER



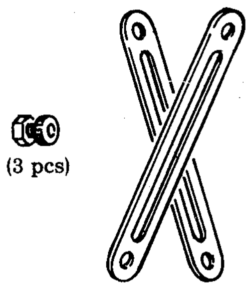
VFK0304 Y/C Separator



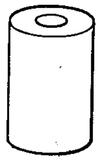
VFK0326 Hex. Wrench Set (0.7, 0.9, 1.2, 1.5, 1.6, 2, 2.4, 3 mm)



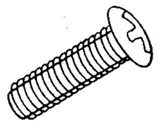
VFK0431 Camera Holder Arm



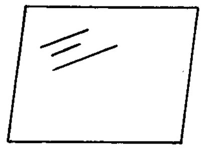
VFK0432 Holder Spacer



XSN26+18 Screw

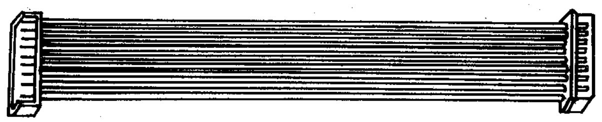


VFK0374 **VFK0375** Colour Temperature Conversion Filter

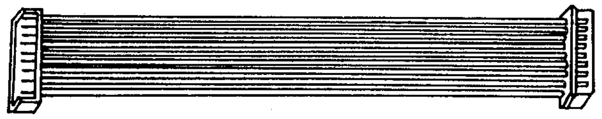


Extension Cables

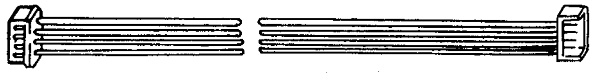
VFKS0067



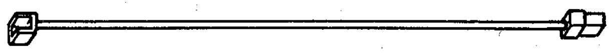
VFKS0075



VFKS0068

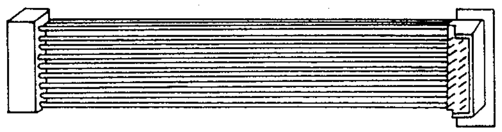


VFKS0060

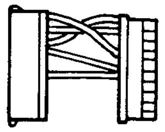


VFK0430

VFK0380



VFKS0074



2-4. ELECTRICAL ADJUSTMENT PROCEDURES

2-4-1. ELECTRICAL ADJUSTMENT FOR CAMERA SECTION

TEST EQUIPMENT AND TOOLS

The following equipment is required for adjustment of the CAMERA section of VHS-C Movie.

1. Oscilloscope
   Dual Trace, 25MHz, 2mV/DIV,
   10:1 Probe
   1:1 Probe
2. Digital Volt Meter or VTVM
3. Frequency Counter
4. Vectorscope
5. Light Meter
6. Tripod
7. Colour Video Monitor
8. Lighting
   140 footcandles (1400lux), on the chart surface 3200 degrees K.
9. Reflection Chart
   - *Logarithmic Gray Scale Chart (Part No.: YWV2310RB99)
   - *Colour Chip Chart (Part No.: YWV2100RB98)
   - *Ball Chart (Part No.: YWV2100RB03)
   - *Hunting Chart (Included in this Service Manual)
   - *White Chart (Card) (The white paper is available as a white chart)
   - *J Chart (Part No.: YWV2100RB3)
   - *B/W Chart (Included in this Service Manual)
   - *Gray–White Chart (Included in this Service Manual)
10. Plastic Tip Driver
11. Camera Unit Holder
    (Part No.: VFK0382)
12. Camera Holder Arm
    (Part No.: VFK0431)

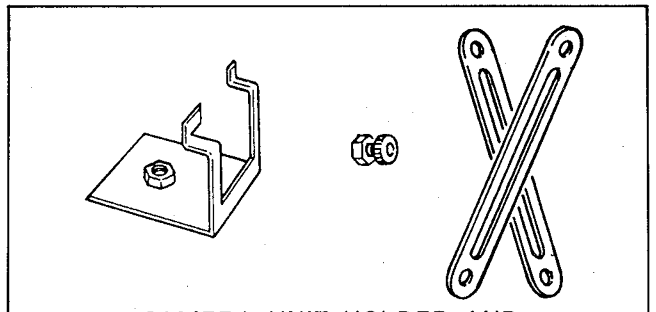

CAMERA UNIT HOLDER AND CAMERA HOLDER ARM

Fig. C1

13. Color temperature conversion filter
    - *C12 Filter (Part No.: VFK0374)
    - *C2 Filter (Part No.: VFK0375)
14. Camera Extension Cables
    (Part No.: VFKS0060, VFK0380, VFK0430)

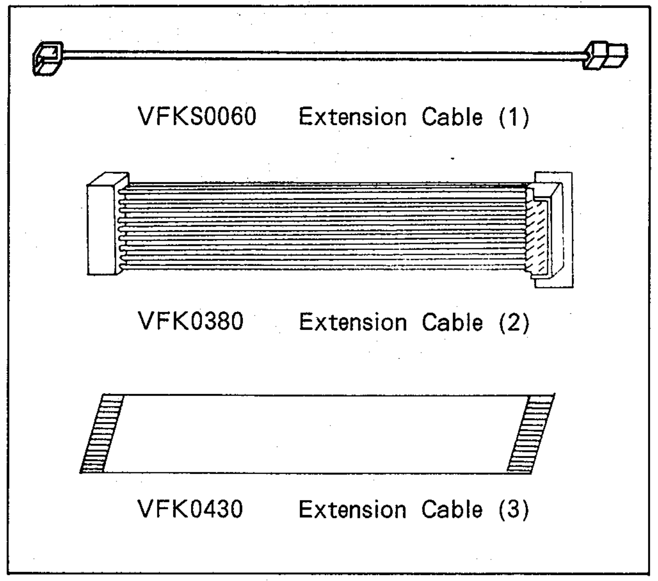

VFKS0060 Extension Cable (1)
VFK0380 Extension Cable (2)
VFK0430 Extension Cable (3)

Fig. C2

PREPARATION

1) Remove the Side Case (L) and Side Case (R) from the Unit.
   (Refer to the Disassembly Section.)
2) Mount the Camera Unit on the tripod using the Camera Unit Holder (VFK0382) and Camera Holder Arm (VFK0431).
3) Connect the Camera Unit, Video Recorder Unit, AC Adaptor, Camera Operation Unit and Colour Monitor TV as shown in Fig. C3.
4) Remove the Flexible Cable between FP301 and P1002 And re-connect the Camera Extension Cable (3) (VFKW0053C) to these connectors.

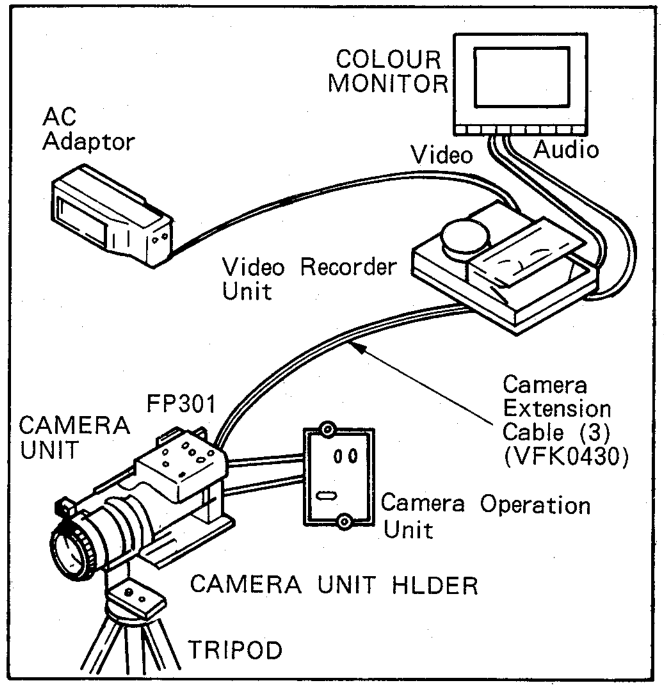

COLOUR MONITOR
AC Adaptor
Video
Audio
Video Recorder Unit
Camera Extension Cable (3) (VFK0430)
FP301
CAMERA UNIT
Camera Operation Unit
CAMERA UNIT HLDER
TRIPOD

Fig. C3

Note:
1. Set the White Balance Switch to INDOOR position during adjustment procedures.
2. Service work for the Camera Unit must be performed in a dust-free location to maintain lens cleanliness.
3. To achieve the best adjustment results, warm up the camera before adjusting.
4. FOR TRIGGER (Refer to Fig. C4)
   To trigger the scope, solder jumper wires to the following pins that are used as test points. (H-Rate – Pin 12 of B302 and V-Rate – Pin 13 of B302). Remove the jumper wires after completing the adjustment Procedure(s).
5. If you use the reflection chart, ensure the colour temperature of the light source used is 3200 degrees K.

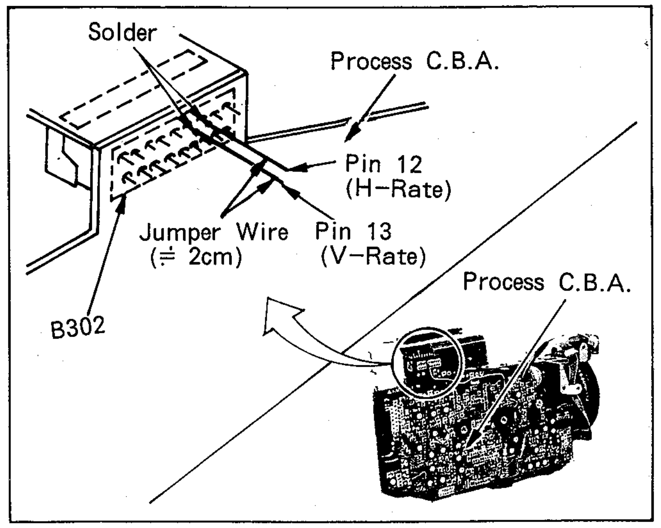
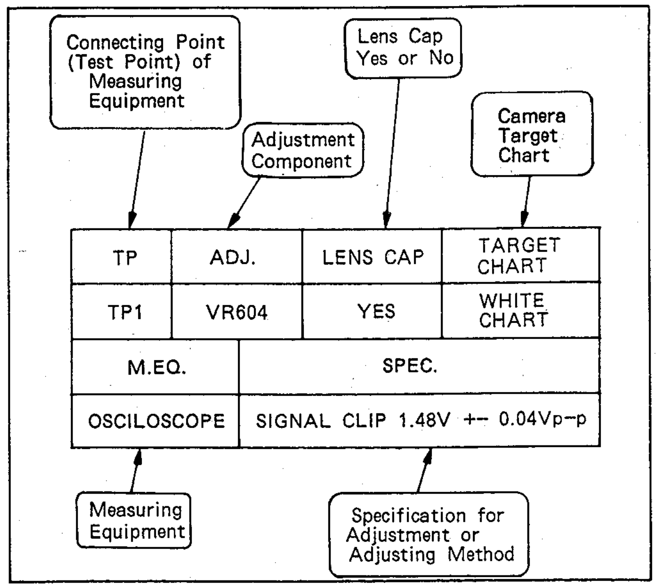

Solder
Process C.B.A.
Pin 12
(H-Rate)
Jumper Wire
(≒ 2cm)
Pin 13
(V-Rate)
Process C.B.A.
B302

Fig. C4

HOW TO READ THE ADJUSTMENT PROCEDURES


Connecting Point (Test Point) of Measuring Equipment
Lens Cap Yes or No
Adjustment Component
Camera Target Chart
Measuring Equipment
Specification for Adjustment or Adjusting Method

TP	ADJ.	LENS CAP	TARGET CHART
TP1	VR604	YES	WHITE CHART
M.EQ.	SPEC.		
OSCILOSCOPE	SIGNAL CLIP 1.48V +- 0.04Vp-p		

Fig. C5-1

CAMERA SECTION ADJUSTMENT FLOW CHART

CCD DRIVE SECTION

1. BACK FOCUS ADJUSTMENT
2. PLL FREQUENCY ADJUSTMENT
3. V-SUB ADJUSTMENT
4. CCD OUTPUT ADJUSTMENT

PROCESS SECTION

5. PEDESTAL LEVEL ADJUSTMENT
6. ALC ADJUSTMENT
7. AGC ADJUSTMENT
8. YH LEVEL ADJUSTMENT
9. CARRIER BALANCE AND BLACK PEDESTAL ADJUSTMENT
10. WHITE BALANCE ADJUSTMENT
11. AUTO WHITE BALANCE MODE ADJUSTMENT

11-1. AWB OUTDOOR MODE ADJUSTMENT

11-2. AWB INDOOR MODE ADJUSTMENT

12. COLOUR PHASE AND R-Y/B-Y GAIN ADJUSTMENT
13. HIGH INTENSITY SUPPRESS ADJUSTMENT
14. LOW LIGHT INDICATION ADJUSTMENT
15. AWT MODE ADJUSTMENT

15-1. AWT MODE (OFFSET) ADJUSTMENT

15-2. AWT MODE (GAIN) ADJUSTMENT

15-3. HIGH COLOUR TEMPERATURE ADJUSTMENT

AUTO FOCUS SECTION

16. AF GATE ADJUSTMENT
17. BIMOLF GAIN CONTROL ADJUSTMENT
18. AF AMP BIAS GAIN ADJUSTMENT
19. AF VH FREQUENCY ADJUSTMENT

Fig. C5-2

CCD DRIVE SECTION

1. BACK FOCUS ADJUSTMENT

(1) Aim the Camera at the Hunting Chart in 3m distance and zoom all the way in (Fully tele position).
(2) Focus the lens on the object.
(3) Adjust the relay lens adjustment point as shown in Fig. C6.

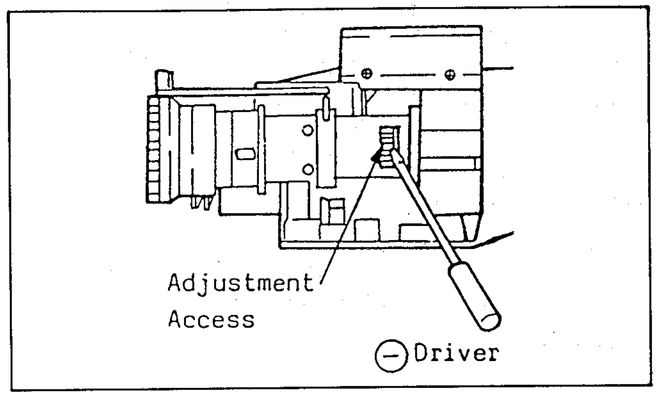

Adjustment
Access
⊖Driver

Fig. C6

(4) Zoom all the way back and adjust the back focus pitch so that the sharpest focus is obtained.
(5) Repeat the procedure as follows, zoom in, focus, zoom out and adjust until the best focus is obtained over the entire Zoom range.

2. PLL FREQUENCY ADJUSTMENT

(1) Remove the Sensor Shield Case by removing its 4 Screws.

TP	ADJ.	LENS CAP	CHART
PIN 10 OF B201	C206		
M.EQ.		SPEC.	
FREQUENCY COUNTER		9.65625MHz +- 10Hz	

Note:
B201, C206 : CCD Drive C.B.A.

3. V-SUB ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
	VR201	NO	HALOGEN LAMP
M.EQ.		SPEC.	
MONITOR TV		NO BLOOMING	

(1) Zoom allthe way in (Fully teie position) and aim the camera at the Halogen Lamp (3200 degrees K) as shown in Fig. C7-1.

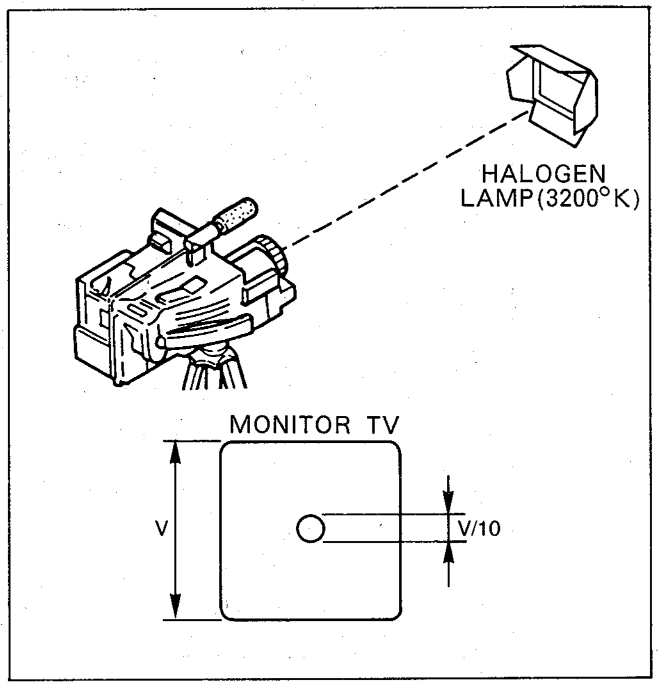

HALOGEN
LAMP(3200°K)
MONITOR TV
V
V/10

Fig. C7-1

(2) Set the High Speed Shutter SW to "ON" portion.
(3) Connect a jumper wire between TP10 and TP11 to fully open the iris.
(4) Adjust the Blooming Control (VR201) so that the monitored picture does not contain the Blooming.
(5) High Speed Shutter "ON" and "OFF" both mode, confirm that the monitored picture does not contain the Blooming even if the camera moves as shown in Fig. C7-2.

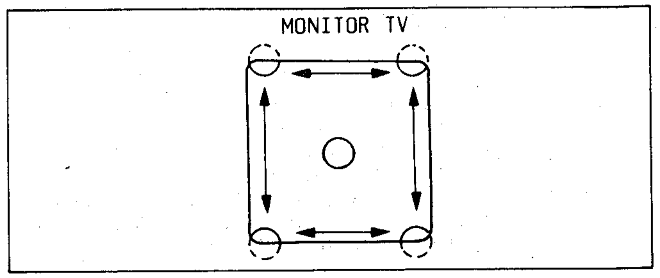


Fig. C7-2

4. CCD OUTPUT ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
TP201	VR202	NO	J CHART
M.EQ.		SPEC.	
OSCILLOSCOPE		200mV +- 10mV	

Note:
TP201, VR202 : CCD Drive C.B.A.

Prior to this adjustment, adjust the iris control (VR301) so that the level at TP1 is 300+-10mV by observing waveform on the oscilloscope.

(1) Aim the camera at the J chart and set the zoom to fully TELE condition and focus the lens on the object.
(2) Connect the oscilloscope to TP201.
(3) Adjust VR202 so that the signal level is 200+-10mVp-p as shown in Fig. C8.

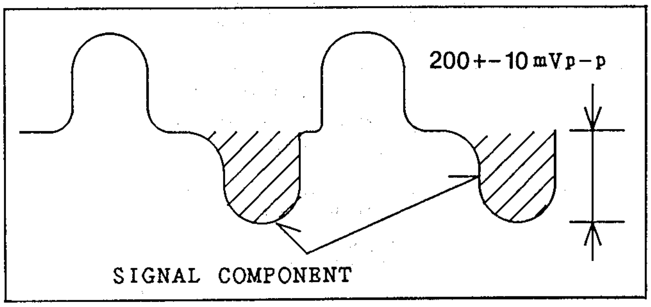


Fig. C8

PROCESS SECTION

5. PEDESTAL LEVEL ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
TP2	VR305	YES	
M.EQ.		SPEC.	
OSCILLOSCOPE		SIGNAL LEVEL EQUALS THE BLANKING (BLNK) LEVEL.	

Note:
TP2, VR305 : Process C.B.A.

(1) Cover the Camera Lens with the Lens Cap.
(2) Connect the scope to TP2 and trigger with Pin 12 of B302 (H-Rate).
(3) Adjust the Pedestal Level Control (VR305) so that the signal level equals the BLK level as shown in Fig. C9.

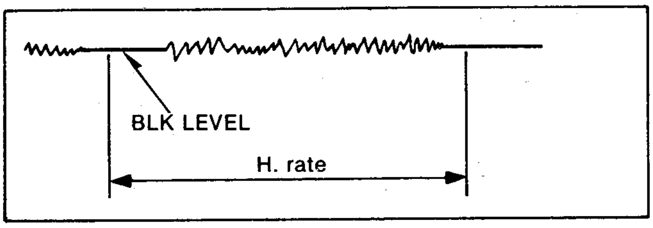


Fig. C9

6. ALC ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
TP1	VR301	NO	GRAY SCALE CHART
M.EQ.		SPEC.	
OSCILLOSCOPE		0.30V +- 0.02Vp-p	

Note:
TP1, VR301 : Process C.B.A.

(1) Aim the camera at the gray scale chart.
(2) Connect the scope to TP1 and trigger with Pin 12 of B302 (H-Rate).
(3) Adjust the Camera Unit to obtain 40usec as shown in Fig. C9.
(4) Adjust the Auto Iris Control (VR301) so that the signal level is 0.30V +- 0.02Vp-p.

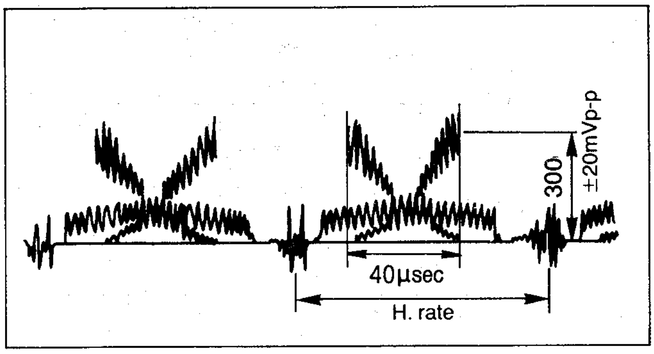


Fig. C10

7. AGC ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
TP2	VR304	NO	GRAY SCALE CHART
M.EQ.		SPEC.	
OSCILLOSCOPE		0.30V +- 0.02Vp-p	

Note:
TP2, VR304 : Process C.B.A.

(1) Aim the camera at the gray scale chart.
(2) Connect the scope to TP2 and trigger with Pin 12 of B302 (H-Rate).
(3) Adjust the Camera Unit to obtain 40usec as shown in Fig. C11.
(4) Adjust the AGC Control (VR304) so that the signal level is 0.30V +- 0.02Vp-p.

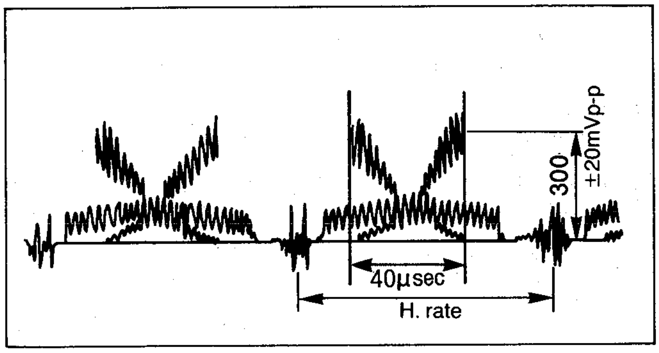


Fig. C11

8. YH LEVEL ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
PIN 7 OF FP 301	VR302	NO	GRAY SCALE CHART
M. EQ.	**SPEC.**		
OSCILLOSCOPE	B/A = 2.33 +– 0.15		

Note:
VR302, FP301 : Process C.B.A.

(1) Aim the camera at the gray scale chart.
(2) Connect the scope to Pin 7 of FP301 (Refer to Fig. C13).
(4) Adjust the YH Level Control (VR302) so that the signal level "B/A" is 2.33 +– 0.15 as shown in Fig. C12.

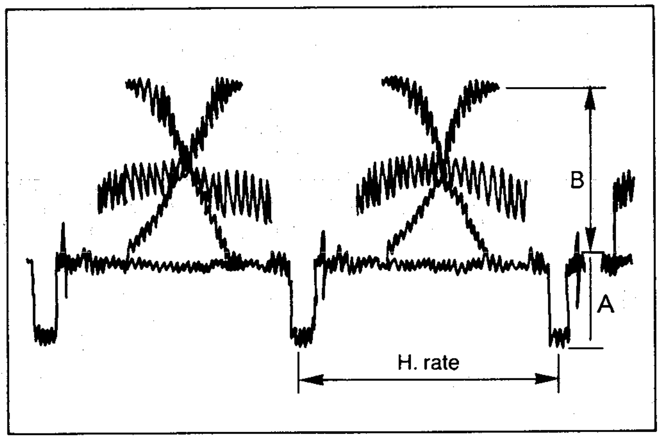


Fig. C12

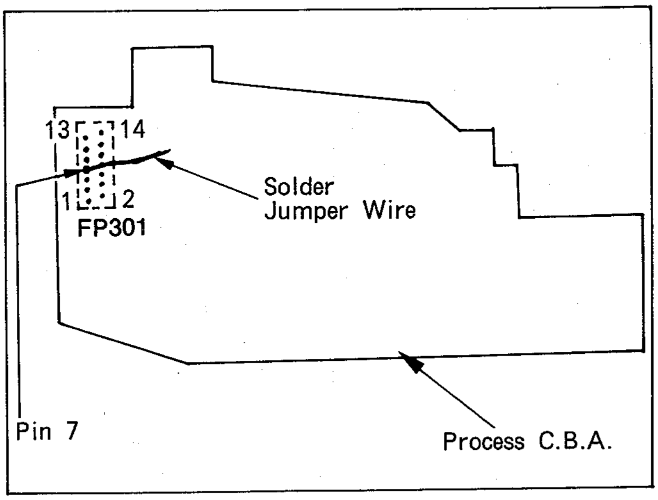


Fig. C13

9. CARRIER BALANCE AND BLACK PEDESTAL ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
VIDEO OUTPUT	VR308 VR318, VR319	YES	
M.EQ.	SPEC.		
VECTORSCOPE	CENTER OF VECTORSCOPE		
OSCILLOSCOPE	WAVEFORM IS MINIMIZED		

Note:
VR308, VR319, VR318 : Process C.B.A.

WHTH VECTORSCOPE
(1) Connect the jumper wire between TP4, TP5 and TP6.
(2) Cover the Camera Lens with the Lens Cap.
(3) Adjust the Black Pedestal Control (VR308) so that the colour vectors collect at the centre of screen on the vectorscope.
(4) Connect the jumper wire between TP6 and Pin 7 of BA307
(5) Adjust the Carrier Balance Controls (VR318 and VR319) so that the colour vectors collect at the centre of screen on the vectorscope.
(7) Disconnect the jumper wire between TP4, TP5 TP6 and Pin 1 of BA307.

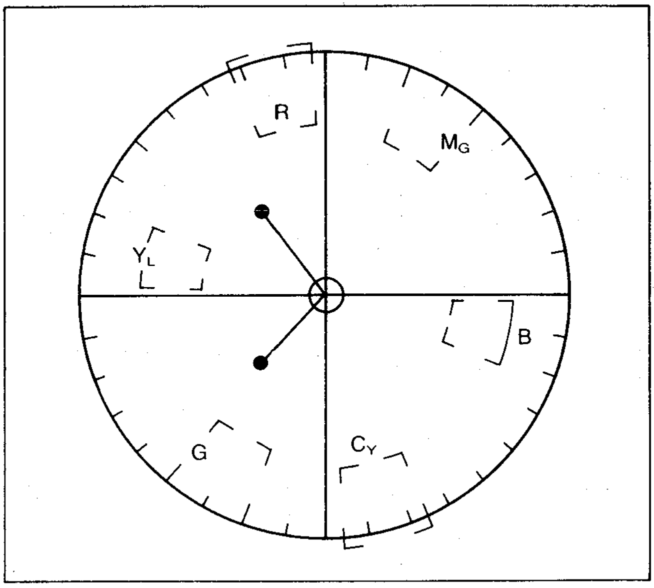


Fig. C14

WITH OSCILLOSCOPE
(1) Adjustment condition and procedure are same as using Vectorscope.
(2) Adjust VR318 and VR319 so that the waveform is minimized.

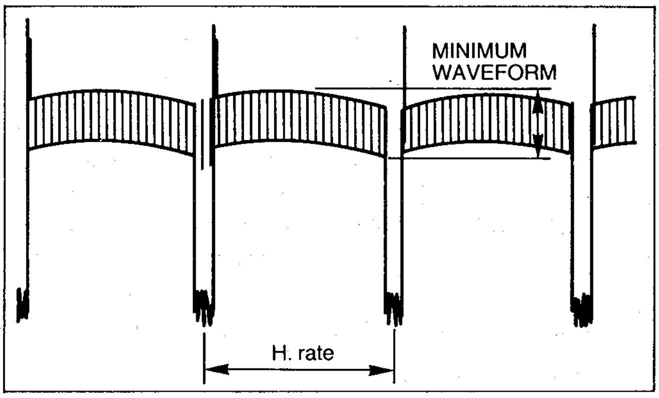


Fig. C15

10. WHITE BALANCE ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
VIDEO OUTPUT	VR322, VR323	NO	WHITE CHART
M.EQ.	SPEC.		
VECTORSCOPE	CENTER OF VECTORSCOPE		
OSCILLOSCOPE	WAVEFORM IS MINIMIZED		

Note:
VR322, VR323 : Process C.B.A.
Set the White balance switch for "INDOOR"

WITH VECTORSCOPE
(1) Connect a jumper wire between TP4, TP5 and TP6.
(2) Aim the camera at the White Chart.
(3) Supply the video signal to the vectorscope.
(4) Adjust the White Balance Controls (VR322 and VR323) so that the colour vectors are collected at the center of screen on the vectorscope as shown in Fig. C16.
(5) Remove the jumper wire between TP4, TP5 and TP6.

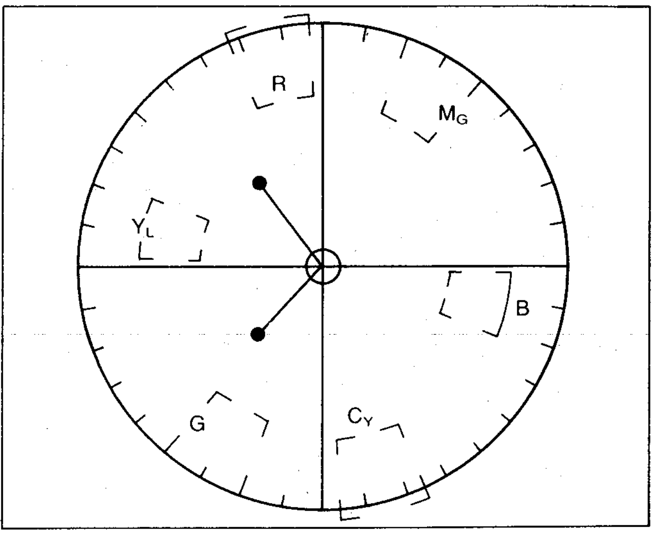


Fig. C16

WITH OSCILLOSCOPE
(1) Adjustment condition and procedure are same as using vectorscope
(2) Adjust VR322 and VR323 so that the waveform is minimized.

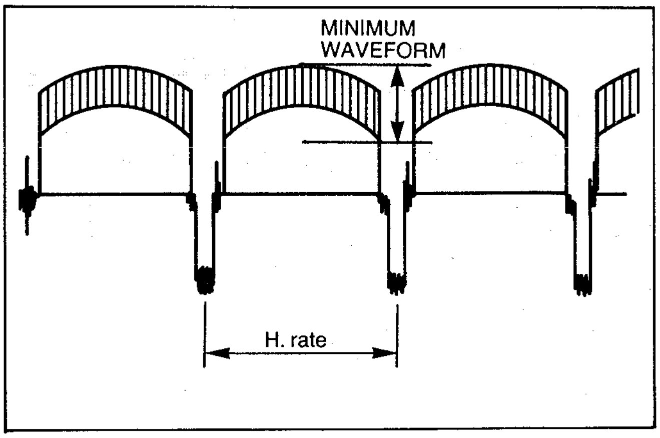


Fig. C17

11. AUTO WHITE BALANCE MODE ADJUSTMENT

Note:
1) Perform both sections of this procedure.

11–1. AWB OUTDOOR MODE ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
VIDEO OUTPUT	VR312 VR313	NO	WHITE CHART
M.EQ.	SPEC.		
VECTORSCOPE	CENTER OF VECTORSCOPE		
OSCILLOSCOPE	WAVEFORM IS MINIMIZED		

Note:
VR312, VR313 : Process C.B.A.

WITH VECTORSCOPE
(1) Set the WHITE BALANCE Switch on the Camera Operation Unit to the "OUTDOOR".
(2) Connect a jumper between TP4, TP5 and TP6.
(3) Aim the camera at the white chart using a 3200 degrees K Halogen lamp.
(4) Supply the video signal to the vectorscope.
(5) Attach the colour temperature conversion filters (VFK0374 andVFK0375) which converts 3200 degrees Kelvin to 5800 degrees Kelvin in front of the Lens (Refer to Note 1 of item.
(6) If the color temperature conversion filter is not available, use a day light source (Refer to Note 2 of No. 15–3).
(7) Adjust the W.B. (B–Y) OUTDOOR GAIN and W.B. (R–Y) OUTDOOR GAIN Controls (VR312 and VR313) so that the colour vectors move to the centre of screen on the vectorscope. (Refer to Fig. C19.)
(8) Remove the colour temperature conversion filter with the fixture from the lens.

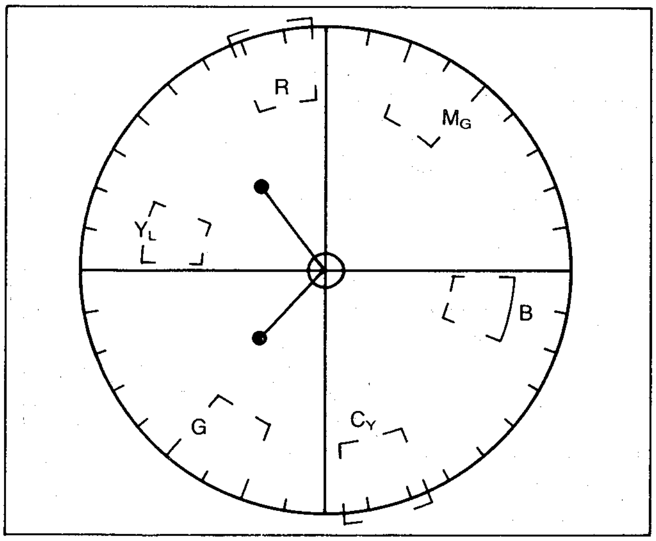


Fig. C18

WITH OSCILLOSCOPE
(1) Adjustment condition and procedure are same as using vectorscope.
(2) Adjust VR312 and VR313 so that the waveform is minimized.

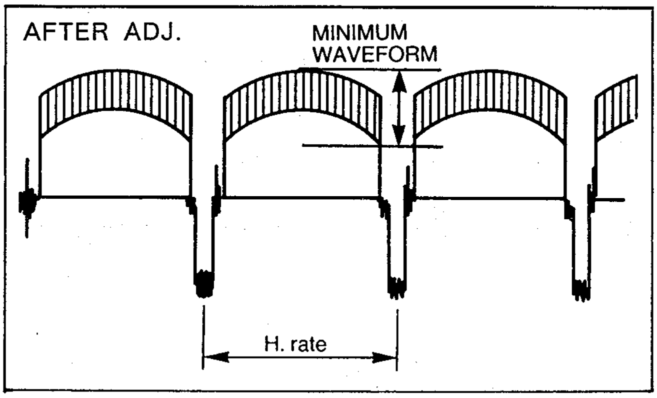


Fig. C19

11–2. AWB INDOOR MODE ADJUSTMENT

TP	ADJ.	LENS CAP	CAHRT
VIDEO OUTPUT	VR314, VR315	NO	GRAY SCALE CHART
M.EQ.	SPEC.		
VECTORSCOPE	CENTER OF VECTORSCOPE		
OSCILLOSCOPE	WAVEFORM IS MINIMIZED		

Note:
VR314, VR315 : Process C.B.A.

WITH VECTORSCOPE
(1) Set the WHITE BALANCE Switch on the Camera Operation Unit for the "INDOOR".
(2) Remove the jumper wire between TP4, TP5 and TP6.
(3) Adjust the W.B. (R–Y OFFSET) and W.B. (B–Y OFFSET) Controls (VR314 and VR315) so that the colour vectors move to the centre of screen on the vectorscope. (Refer to Fig. C20.)

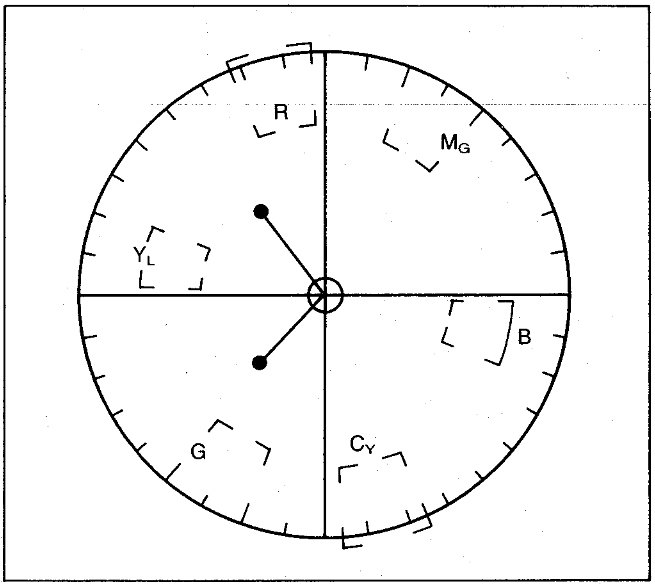


Fig. C20

WITH OSCILLOSCOPE
(1) Adjustment condition and procedure are same as using vectorscope.
(2) Adjust VR314 and VR315 so that the waveform is minimized.

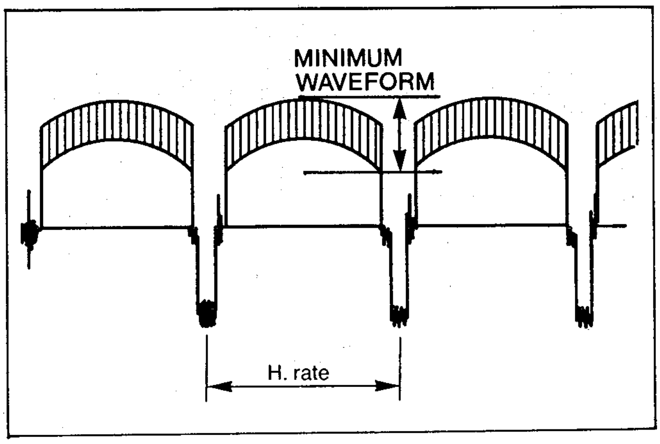


Fig. C21

12. COLOR PHASE AND R–Y/B–Y GAIN ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
VIDEO OUTPUT	VR316, VR317 VR303, VR324	NO	COLOUR CHIP CHART
M.EQ.	SPEC.		
VECTORSCOPE	FIG. C22		

Note:
VR316, VR317, VR303, VR324 : Process C.B.A.
Set the White balance switch for "INDOOR".

(1) Connect a jumper wire between TP4, TP5 and TP6.
(2) Aim the camera at a colour chip chart.
(3) Supply the video signal to the vectorscope.
(4) Adjust the Colour Phase Control (VR303 and VR324), the R–Y Gain Control (VR316) and the B–Y Gain Control (VR317) so that the vector of each colour is as shown in Fig. C22.
(5) Remove the jumper wire between TP4, TP5 and TP6.

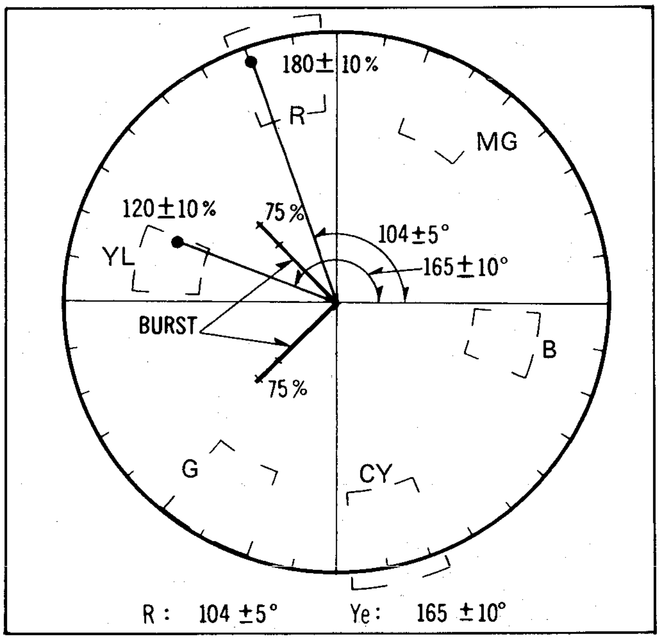


Fig. C22

13. HIGH INTENSITY SUPPRESS ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
	VR306	NO	GRAY SCALE CHART
M.EQ.	SPEC.		
TV MONITOR	NO COLOUR INTERFERENCE		

Note:
VR306 : Process C.B.A.

(1) Aim the camera at the gray scale chart and focus the lens object.
(2) Press the back light button and keep as it is.
(3) Adjust VR306 so that the monitored gray scale chart does not have colour interfarence.

14. LOW LIGHT INDICATION ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
TP12	VR107	NO	WHITE CHART
M.EQ.	SPEC.		
OSCILLOSCOPE	REFER TO FIG. C23.		

Note:
TP12, VR107 : Process C.B.A.

(1) Connect the oscilloscope to TP12 and set it in DC mode.
(2) Shade surface of AWT Sensor with hand and adjust VR107 so that DC level at TP12 is changed from "LOW" to "HIGH"

Note:
For more acurate adjustment;
When the illumination of the surface of AWT Sensor is 6lux,the level must be "LOW".
When the illumination of the surface of AWT Sensor is 3lux,the level must be "HIGH".

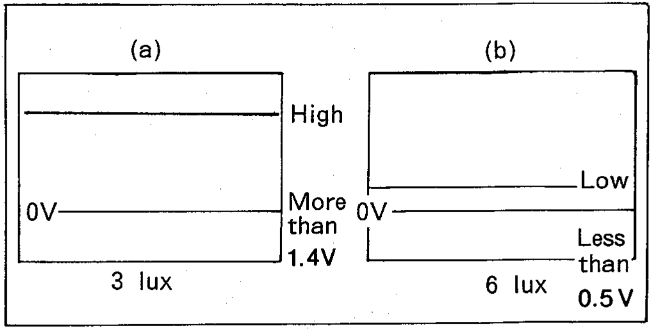


Fig. C23

15. AWT MODE ADJUSTMENT

Note:

1) Perform all three sections of this procedure.
2) Set the WHITE BALANCE Switch on the CAMERA OPERATION UNIT to the "AUTO".

15–1. AWT MODE (OFFSET) ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
VIDEO OUTPUT	VR105, VR106	NO	WHITE CHART

M.EQ.	SPEC.
VECTORSCOPE	CENTER OF VECTORSCOPE
OSCILLOSCOPE	WAVEFORM IS MINIMIZED

Note:
VR105, VR106 : Process C.B.A.
Set the WHITE BALANCE Switch on the CAMERA OPERATION UNIT to the "AUTO".

WITH VECTORSCOPE

(1) Aim the camera at the white chart.
(2) Supply the video signal to the vectorscope.
(3) Rotate VR101 and VR102 fully clockwise as shown in Fig.24.

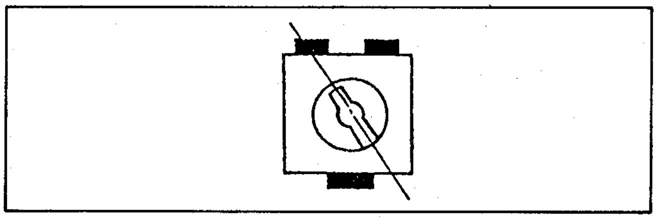


Fig. 24

(4) Adjust the AWT (R–Y OFFSET) and AWT (B–Y OFFSET) controls (VR105 and VR106) so that the colour vectors move to the centre of screen on the vectorscope. (Refer to Fig. C25.)

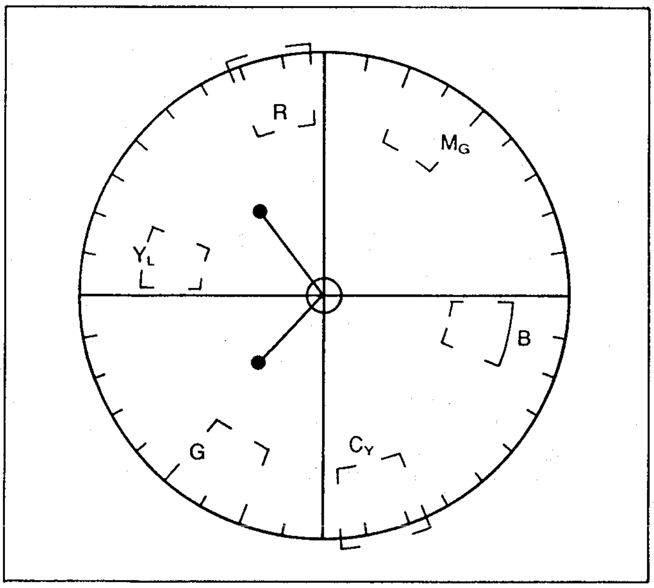


Fig. C25

WITH OSCILLOSCOPE

(1) Adjustment condition and procedure are same as using vectorscope.
(2) Adjust VR105 and VR106 so that the waveform is minimized.

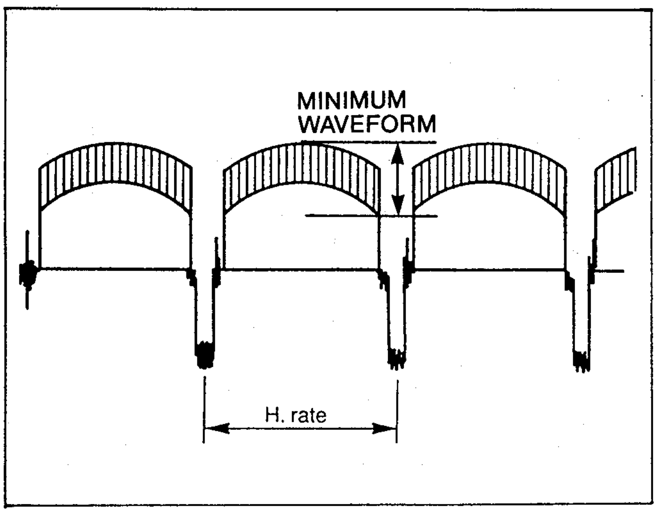


Fig. C26

15–2. AWT MODE (GAIN) ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
VIDEO OUTPUT	VR103, VR104, VR105, VR106	NO	WHITE CHART

M.EQ.	SPEC.
VECTORSCOPE	CENTER OF VECTORSCOPE
OSCILLOSCOPE	WAVEFORM IS MINIMIZED

Note:
VR103, VR104, VR105, VR106 : Process C.B.A.
Set the White balance switch for "AUTO" position.

WITH VECTORSCOPE

(1) Aim the camera at the white chart using a 3200 degrees K Halogen lamp.
(2) Supply the video signal to the vectorscope.
(3) Attach the color temperature conversion filter (VFK0375) x 3 pieces which converts 3200 degrees Kelvin to 4000 degrees Kelvin in front of the Lens and AWT Sensor.(Refer to Note 1 of item. 15–3)
(4) If the colour temperature conversion filter is not available, use a day light source. (Refer to Note 2 of item. 15–3)
(5) Adjust the AWT (R–Y GAIN) and AWT (B–Y GAIN) Controls (VR103 and VR104) so that the color vectors move to the centre of screen on the vectorscope. (Refer to Fig. C27.)

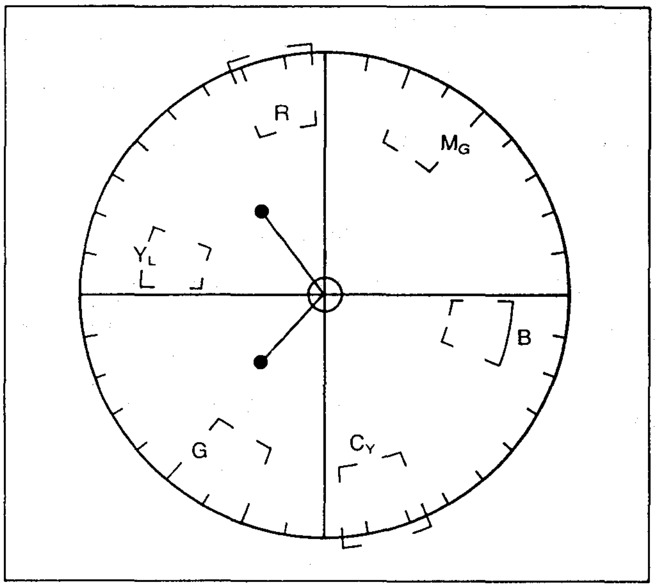


Fig. C27

(6) Next, remove the colour temperature conversion filter with the fixture from the Lens.
(7) If the colour vectors do not collect at the centre, adjust the AWT (R−Y OFFSET) and AWT (B−Y OFFSET) Controls (VR105 and VR106) so that the colour vectors move to the centre of screen on the vectorscope.
(8) Repeat steps (1)−(7) so that the colour vectors collect at the center of screen on the vectorscope.

WITH OSCILLOSCOPE
(1) Adjustment condition and procedure are same as using vectorscope.
(2) Adjust VR103, VR104, VR105 and VR106 so that the waveform is minimized.

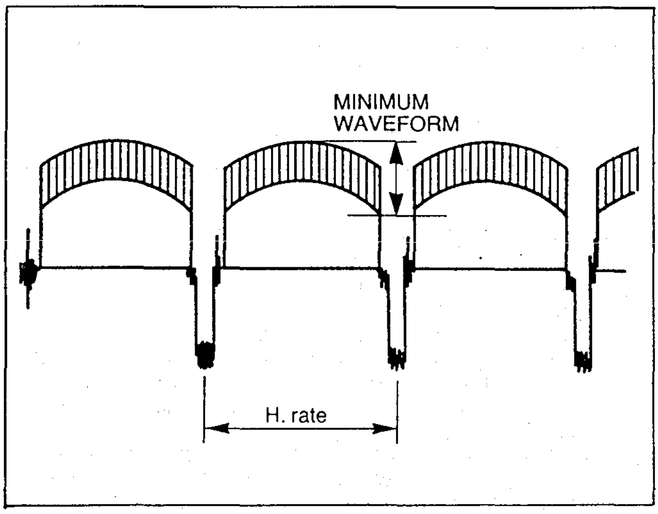


Fig. C28

15–3. HIGH COLOR TEMPERATURE CLIP ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
VIDEO OUTPUT	VR101, VR102	NO	WHITE CHART

M.EQ.	SPEC.
VECTORSCOPE	CENTER OF VECTORSCOPE
OSCILLOSCOPE	WAVEFORM IS MINIMIZED

Note:
VR101, VR102 : Process C.B.A.
When this adjustment is performed, previous items 15−1 and 15−2 must be completed.

WITH VECTORSCOPE
(1) Aim the camera at the white chart using a 3200 degrees K Halogen lamp .
(2) Supply the video signal to the vectorscope.
(3) Attach the colour temperature conversion filters (VFK0374 and VFK0375) which convert 3200 degrees Kelvin to 5800 degrees Kelvin in front of the Lens and AWT Sensor. (Refer to Note 1 of item. 15−3).
(4) If the colour temperature conversion filters are not available, use a day light source. (Rfer to Note 2 of item. 15−3)
(5) Adjust the Colour Temperature Clip Controls (VR101 and VR102) so that the colour vectors collect at the contre of screen on the vectorscope.

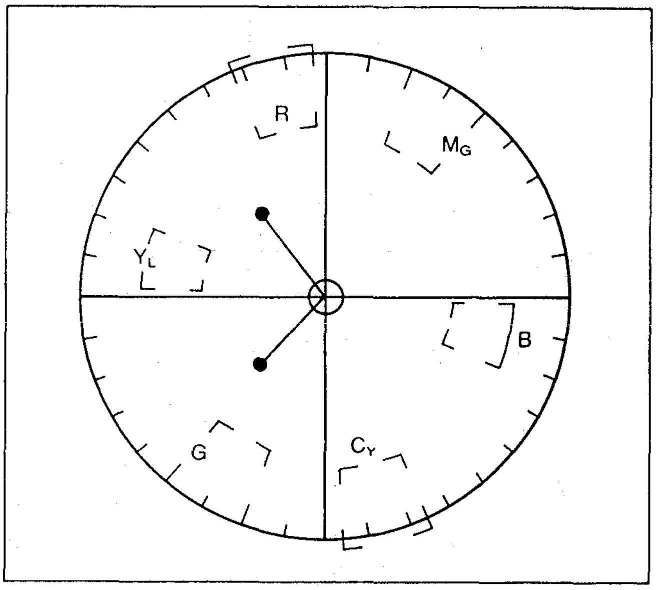


Fig. C29

WITH OSCILLOSCOPE
(1) Adjustment condition and procedure are same as using vectorscope.
(2) Adjust VR101 and VR102 so that the waveform is minimized.

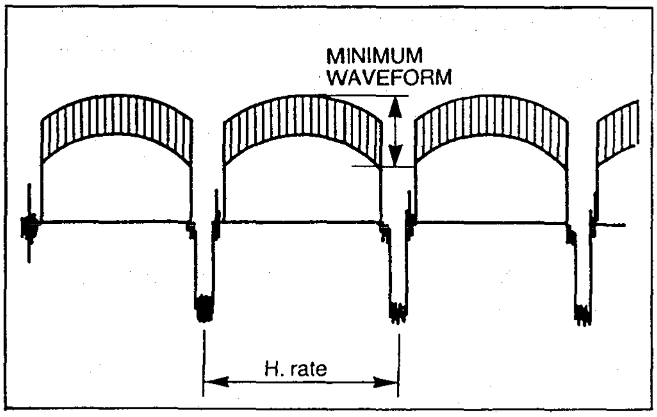


Fig. 30

Note 1:
Attach the fixture to the Lens, then attach the colour temperature conversion filter to fixture. It can be procured at a Camera Store. Please construct the fixture using the sheet attached to inside cover page at the back of the Service Manual. (Refer to Fig. C31.)

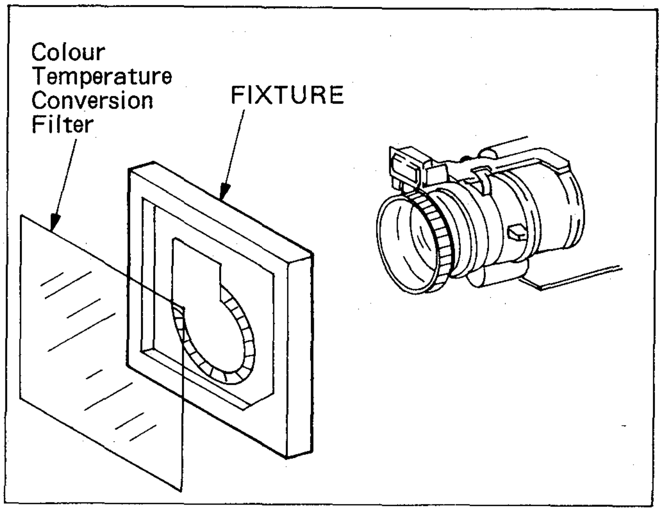


Fig. C31

Note 2:

(1) Aim the camera at a sunny outdoor source (window, etc.).

(2) Incoming light must be from an outdoor source only; source and illumination on the sensor must be more than 500Lx, and colour temperature must be within 5000 degrees –6000 degrees Kelvin. (Refer to Fig. C26.)

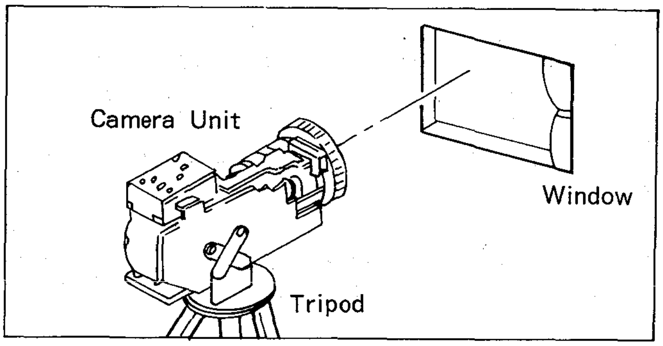


Fig. C32

AUTO FOCUS SECTION

PREPARATION

The following adjustments are for the Auto Focus Unit.

(1) Camera zoom is positioned at the end of TELE side.

16. AF GATE ADJUSTMENT

TP	ADJ.	IRIS CAP	CHART
TP602, TP603	C656	NO	
M.EQ.		SPEC.	
OSCILLOSCOPE		1T = 9.6 +– 0.4u–sec.	

Note:
TP602, TP603, C656 : AF C.B.A.

(1) Set the AF Gate Control (C656) as shown in Fig. C33

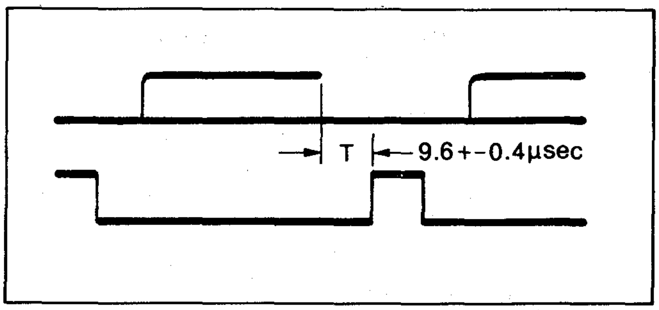


Fig. C33

17. BIMOLF GAIN CONTROL ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
TP604	VR603	YES	
M.EQ.		SPEC.	
OSCILLOSCOPE		A = 16V +– 0.5Vp–p	

Note:
TP604, VR603 : AF C.B.A.

(1) Set the Focus Switch to the MANUAL position.
(2) Cover the camera lens with the lens cap.
(3) Connect the scope to the TP604.
(4) Adjust the Bimolf Gain Control (VR603) so that the signal level (A) is 16V +- 0.5Vp-p.

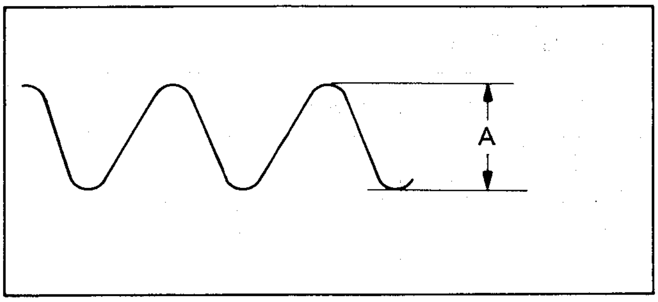


Fig. C34

18. AF AMP BIAS AND GAIN ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
TP3, TP9, TP10, TP11	VR601, VR602	NO	GRAY SCALE CHART

M.EQ.	SPEC.
D.V.M.	----------------

Note:
TP3, TP9, TP10, TP11 : Process C.B.A.
VR601, VR602 : AF C.B.A.

(1) Connect a jumper wire between TP3 and TP10.
(2) Adjust the AF AMP BIAS Control (VR601) so that the voltage level at TP9 is 1.74V +- 0.02V.
(3) Disconnect the jumper wire between TP3 and TP10.
(4) Next, connect a jumper wire between TP10 and TP11.
(5) Adjust the AF AMP Gain Control (VR602) so that the voltage Level of TP9 is 3.72V +- 0.05V.
(6) Disconnect the jumper wire between TP10 and TP11.
(7) Next, confirm the voltage level at TP9 by connecting a jumper wire between TP3 and TP10.
(8) If the voltage level at TP9 is not 1.74V +- 0.02V, repeat steps (1) - (6).

TP	ADJ.	LENS CAP	CHART
	DEFLECTION YOKE CENTERING MAGNET	NO	BALL CHART

M.EQ.	SPEC.
MONITOR TV	CENTER THE PICTURE

19. AF VH FREQUENCY ADJUSTMENT

TP	ADJ.	IRIS CAP	CHART
TP605	C621	NO	WHITE/GRAY CHART

M.EQ.	SPEC.
OSCILOSCOPE	A = 1.0 +- 0.04Vp-p

Note:
TP605, TP611, C621 : AF C.B.A.

Zoom : TELE Side
Focus: AUTO

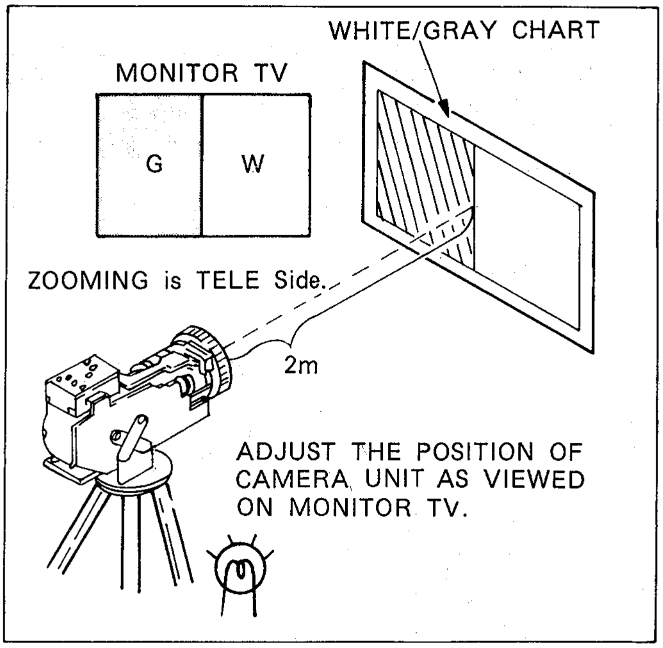


Fig. C35

(1) Aim the Camera at the White/Gray Chart attached to inside of this Service Manual.
(2) Confirm that the voltage at TP611 is 2.2V +- 0.1V.
(3) If the Voltage at TP611 is not 2.2V +- 0.1V, adjust the light source so that the voltage at TP611 is 2.2V +- 0.1V.
(4) Adjust the C621 so that the "A" level at TP605 is 1.0 +- 0.05Vp-p.

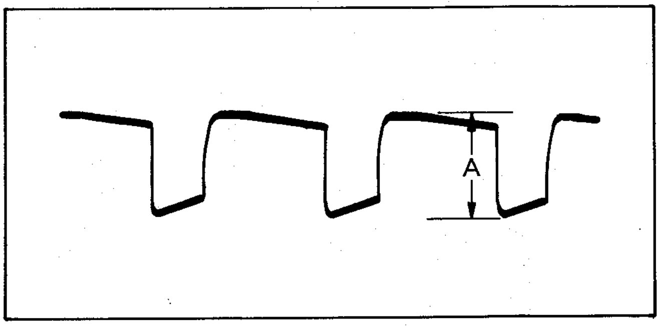


Fig. C36

2-4-2. ELECTRICAL ADJUSTMENT FOR E.V.F. SECTION

PREPARATION

The following adjustments are for the Electronic Viewfinder.

(1) Connect the Viewfinder plug to the E.V.F. connector on the unit.
(2) The camera circuit must be completely aligned before viewfinder adjustments are made.

1. H-OSC ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
Pin2 of P701	VR702	NO	BALL CHART
M.EQ.		SPEC.	
FREQUENCY COUNTER		15.6KHz +- 0.1KHz	

Note:
P701, VR702 : E.V.F. C.B.A.

(1) Connect the scope to Pin2 of P701, use DC
(5) Adjust the H-OSC (VR702) so that the frequency is 15.8 +- 0.1 KHz.

2. CENTERING ADJUSTMENT

(1) Aim the camera at the registration chart.
(2) Adjust the Deflection Yoke Centering Magnets by turning them so that the picture on monitor TV is centered.

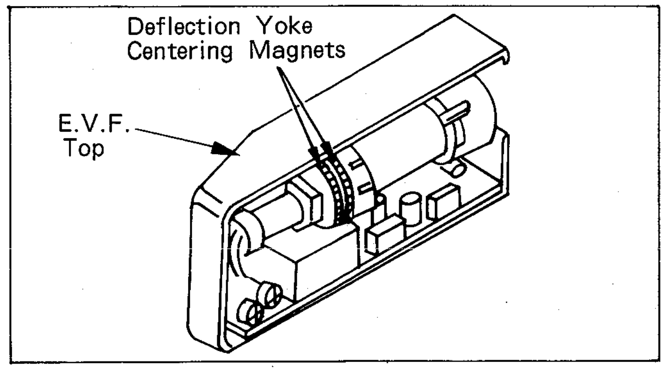

Deflection Yoke
Centering Magnets
E.V.F.
Top

Fig. C39

3. FOCUS ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
	VR704	NO	BALL CHART
M.EQ.		SPEC.	
VIEWFINDER		BEST RESOLUTION	

Note:
VR704 : E.V.F. C.B.A.

(1) Aim the camera at the Ball chart.
(2) Adjust the focus control (VR704) for best resolution in the viewfinder.

4. V.SIZE ADJUSTMENT

TP	ADJ.	LENS CAP	CHART
	VR701	NO	GRAY SCALE CHART
M.EQ.		SPEC.	
VIEWFINDER		VERTICAL SIZE IS FIXED.	

Note:
VR701 : E.V.F. C.B.A.

(1) Aim the camera at the gray scale chart.
(2) Adjust the Vertical Size (VR701) so the Vertical Size is correct and the picture does not roll as shown in Fig. C40.

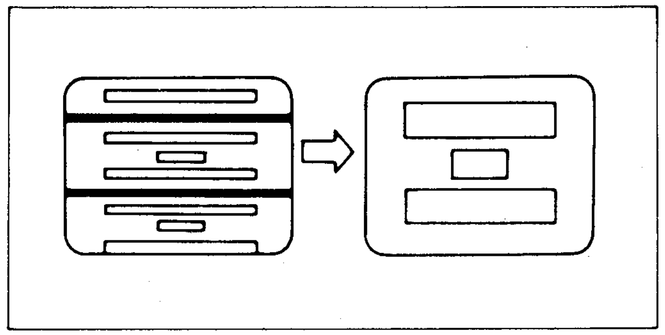


Fig. C40

5. BRIGHTNESS ADJUSTMENT

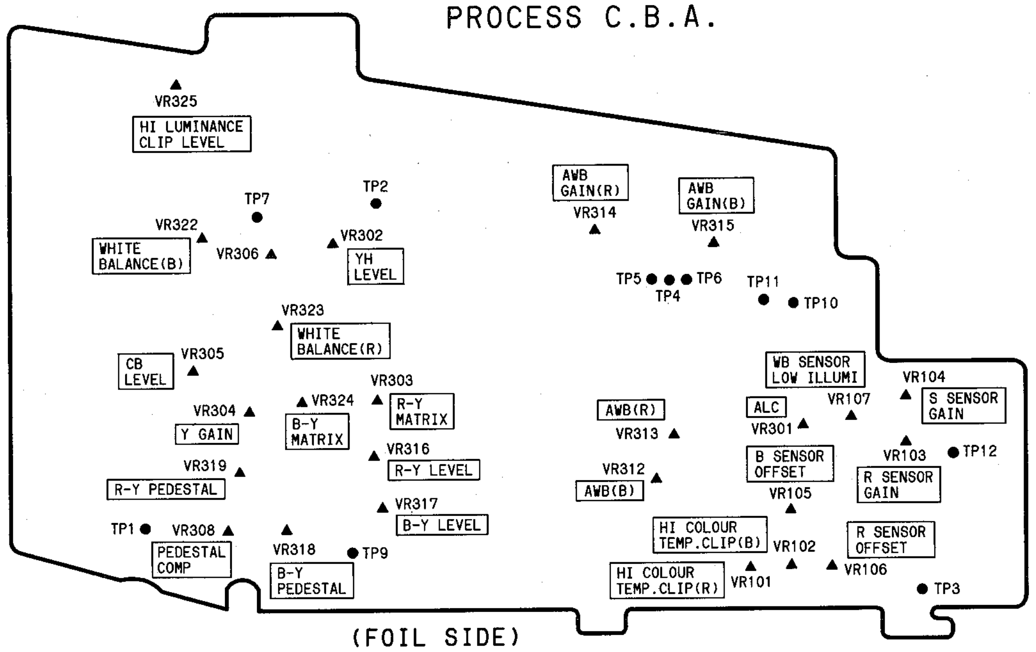
TP	ADJ.	LENS CAP	CHART
	VR705	NO	GRAY SCALE CHART
M.EQ.		SPEC.	
VIEWFINDER		NATURAL GRADATION	

Note:
VR705 : E.V.F. C.B.A.

(1) Aim the camera at the gray scale shart.
(2) Adjust the Brightness Control (VR705) so that the black and white Bars in the E.V.F. screen are the same as they are in the monitor TV screen.

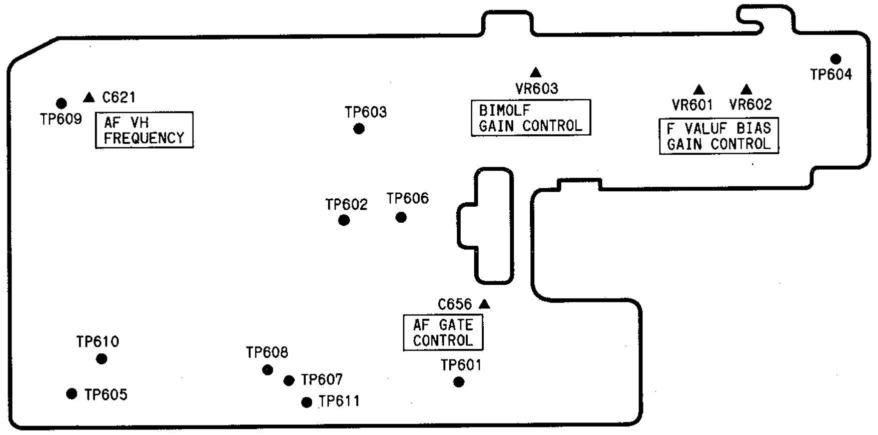
LOCATION OF TEST POINT & CONTROLS —CAMERA SECTION—

PROCESS C.B.A.


VR325
HI LUMINANCE CLIP LEVEL
TP7
TP2
VR322
WHITE BALANCE(B)
VR306
VR302
YH LEVEL
AWB GAIN(R)
VR314
AWB GAIN(B)
VR315
TP5
TP4
TP6
TP11
TP10
VR323
WHITE BALANCE(R)
CB LEVEL
VR305
VR303
R-Y MATRIX
VR324
B-Y MATRIX
VR304
Y GAIN
VR316
R-Y LEVEL
VR319
R-Y PEDESTAL
VR317
B-Y LEVEL
TP1
VR308
PEDESTAL COMP
VR318
TP9
B-Y PEDESTAL
AWB(R)
VR313
VR312
AWB(B)
WB SENSOR LOW ILLUMI
ALC
VR301
VR107
VR104
S SENSOR GAIN
B SENSOR OFFSET
VR105
VR103
TP12
R SENSOR GAIN
HI COLOUR TEMP.CLIP(B)
VR102
HI COLOUR TEMP.CLIP(R)
VR101
R SENSOR OFFSET
VR106
TP3

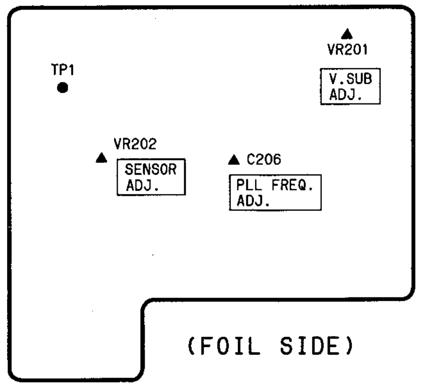
(FOIL SIDE)

AUTO FOCUS C.B.A.


TP609
C621
AF VH FREQUENCY
TP603
VR603
BIMOLF GAIN CONTROL
VR601
VR602
F VALUF BIAS GAIN CONTROL
TP604
TP602
TP606
C656
AF GATE CONTROL
TP610
TP608
TP607
TP611
TP601
TP605

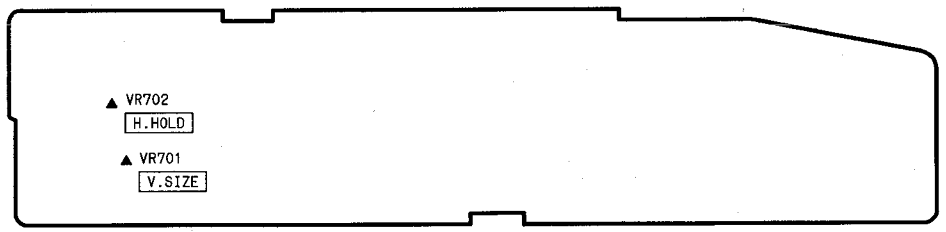
(FOIL SIDE)

SENSOR C.B.A.


TP1
VR201
V.SUB ADJ.
VR202
SENSOR ADJ.
C206
PLL FREQ. ADJ.

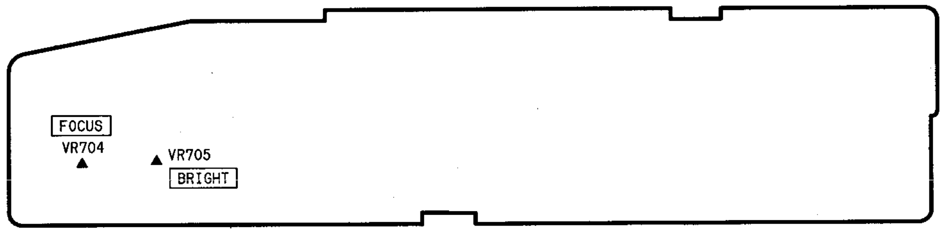
(FOIL SIDE)

E.V.F. C.B.A.


VR702
H.HOLD
VR701
V.SIZE

(FOIL SIDE)

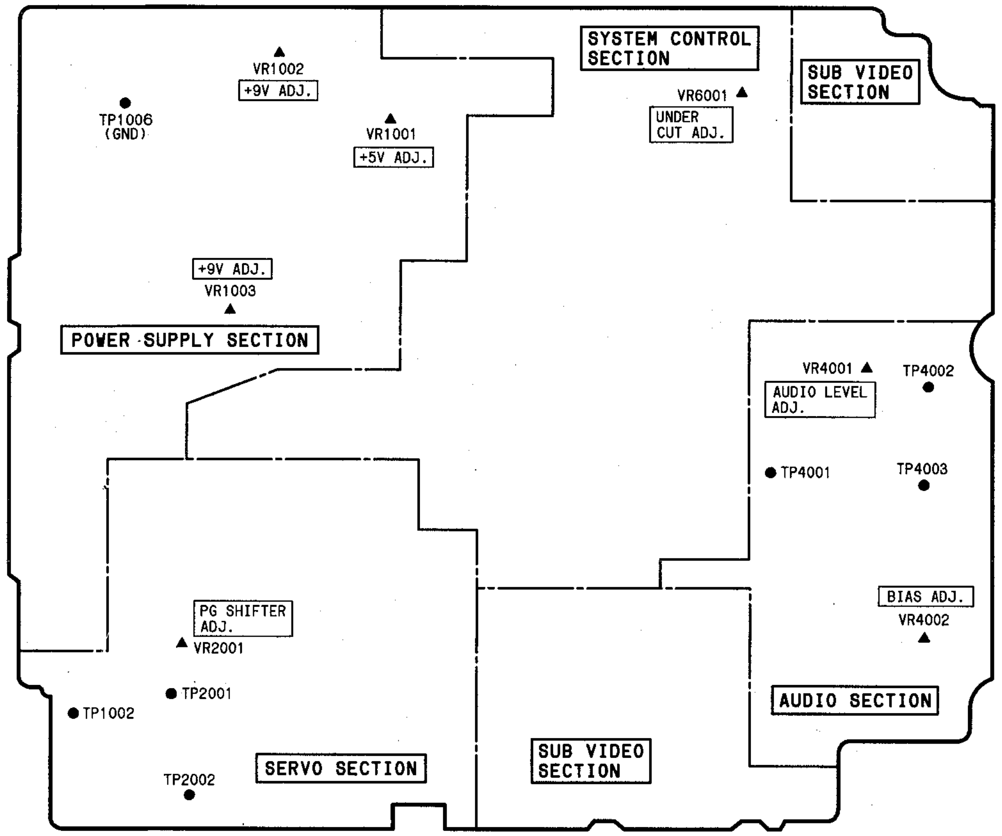
E.V.F. C.B.A.


FOCUS
VR704
VR705
BRIGHT

(COMPONENT SIDE)

LOCATION OF TEST POINT & CONTROLS —VTR SECTION—

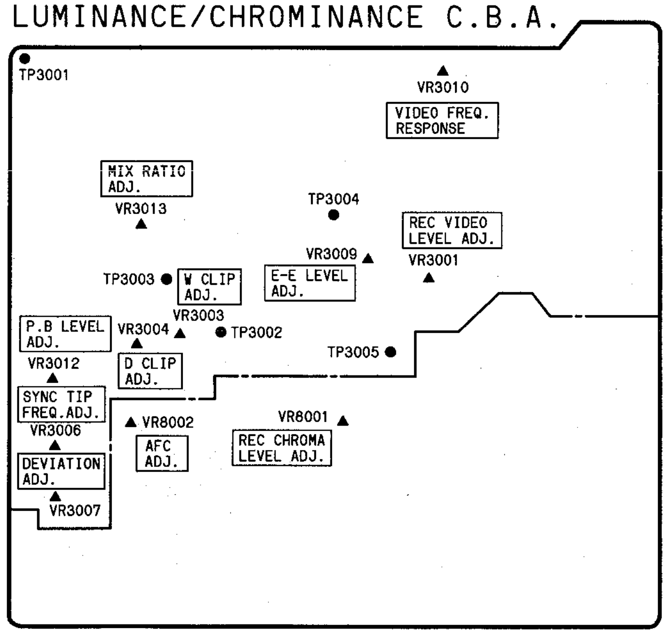
MAIN C.B.A.



VR1002
+9V ADJ.
TP1006
(GND)
VR1001
+5V ADJ.
SYSTEM CONTROL SECTION
VR6001
UNDER CUT ADJ.
SUB VIDEO SECTION
+9V ADJ.
VR1003
POWER SUPPLY SECTION
VR4001
AUDIO LEVEL ADJ.
TP4002
TP4001
TP4003
PG SHIFTER ADJ.
VR2001
BIAS ADJ.
VR4002
TP2001
TP1002
AUDIO SECTION
TP2002
SERVO SECTION
SUB VIDEO SECTION

(FOIL SIDE)

LUMINANCE/CHROMINANCE C.B.A.



TP3001
VR3010
VIDEO FREQ. RESPONSE
MIX RATIO ADJ.
VR3013
TP3004
REC VIDEO LEVEL ADJ.
VR3009
VR3001
TP3003
W CLIP ADJ.
E-E LEVEL ADJ.
VR3003
P.B LEVEL ADJ.
VR3004
TP3002
VR3012
D CLIP ADJ.
TP3005
SYNC TIP FREQ.ADJ.
VR3006
VR8002
VR8001
AFC ADJ.
REC CHROMA LEVEL ADJ.
DEVIATION ADJ.
VR3007

(FOIL SIDE)

2-4-3. ELECTRICAL ADJUSTMENT FOR VTR SECTION

TEST EQUIPMENT AND TOOLS

The following equipment is required for adjustment of the VTR section of VHS-C Movie

1. D.V.M (Digital Volt Meter)
   Voltage Range : 0.001 ~ 50V
2. Dual Trace Oscilloscope
   Voltage Range : 0.005 ~ 50Vldiv.
   Frequency Range : DC ~ 10MHz
   Probe : 10 : 1 or 1 : 1
3. Frequency Counter.
   Frequency Range :
4. Signal Generator (Sinewave)
   Frequency Range : 0 ~ 10MHz
5. Video Sweep Generator
   Frequency Range : 0 ~ 10MHz
6. AC Millivolt Meter
   Voltage Range : 0 ~ 1Vrms.
7. Plastic Tip Driver
8. VHS-C Alignment Tape (VMF8180H3PF)
9. Y/C Separator (VFK0304)
10. Extension Cable
    W16pin Extention Cable (VFK0429)
    W20pin Extention Cable (VFKS0067)
    4pin Extention Cable (VFKS0068) --- 2pcs.
    14pin Flexible Cable (VFK0430)
    Y/C Separator Connection Cable (VFKS0074)

POWER SECTION

1. REG.+5V DC ADJUSTMENT

2. REG.+9V DC ADJUSTMENT

3. CAMERA REG.+9V DC ADJUSTMENT

SERVO SECTION

4. PG SHIFTER ADJUSTMENT

VIDEO SECTION

5. E-E LEVEL ADJUSTMENT

6. SYNC TIP FREQUENCY ADJUSTMENT

7. DEVIATION ADJUSTMENT

8. WHITE AND DARK CLIP ADJUSTMENT

9. REC CHROMA LEVEL ADJUSTMENT

10. REC VIDEO LEVEL ADJUSTMENT

11. AFC ADJUSTMENT

12. MIX RATIO ADJUSTMENT

13. PLAY BACK LEVEL ADJUSTMENT

14. VIDEO FREQUENCY RESPONCE

AUDIO SECTION

15. AUDIO BIAS CURRENT ADJUSTMENT

16. AUDIO PLAYBACK LEVEL ADJUSTMENT

SYSTEM CONTROL SECTION

17. UNDER CUT ADJUSTMENT

POWER SECTION

1. REG. +5V DC ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP1001	VR1001	CAMERA REC	10.5+-0.5V DC (To DC Jack by DC Power Supply)
TAPE	M.EQ.	SPEC.	
BLANK TAPE	DC Power Supply D.V.M.	4.91+-0.025V	

Condition :
Do not connect AC Adaptor. Connect a DC Power Supply to DC Jack + (+) and GND (−), then supply the voltage 10.5+-0.5V

2. REG. +9V DC ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP1002	VR1002	CAMERA REC	9.6+-0.5V DC (To DC Jack by AC Adaptor)
TAPE	M.EQ.	SPEC.	
BLANK TAPE	D.V.M.	8.7+-0.05V	

Condition :
Befor this adjustment, "REG. +5V DC ADJUSTMENT" must be completed.
Do not connect AC Adaptor. Connect a DC Power Supply to DC Jack + (+) and GND (−), then supply the voltage 9.6+−0.5V

3. CAMERA REG. +9V DC ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP1003	VR1003	CAMERA REC	9.6+−0.5V DC (To DC Jack by AC Adaptor)
TAPE	M.EQ.	SPEC.	
BLANK TAPE	D.V.M.	8.57V~8.67V	

Confirm the following voltages
TP1004 ––– 15.2+−0.3V
TP1005 ––– −7.7+−0.3V

Condieion :
Befor this adjustment, "REG. +9V DC ADJUSTMENT" must be completed.
Do not connect AC Adaptor. Connect a DC Power Supply to DC Jack + (+) and GND (−), then supply the voltage 9.6+−0.5V

SERVO SECTION

4. PG SHIFTER ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP2001 LINE OUT	VR2001	SP MODE PLAY BACK	
TAPE	M.EQ.	SPEC.	
ALIGNMENT TAPE (VFM8180H3PF)	OSCILLO SCOPE	T=6.5+−0.5H (0.42+−0.03msec)	

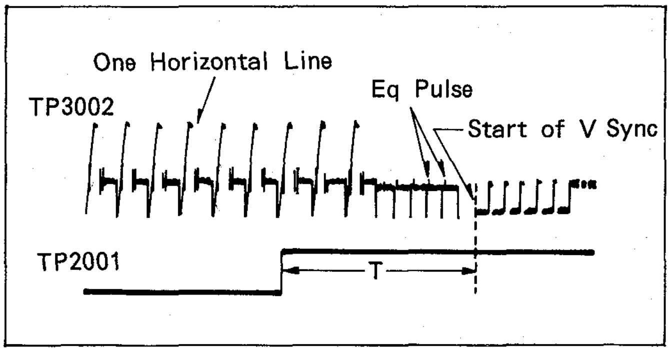
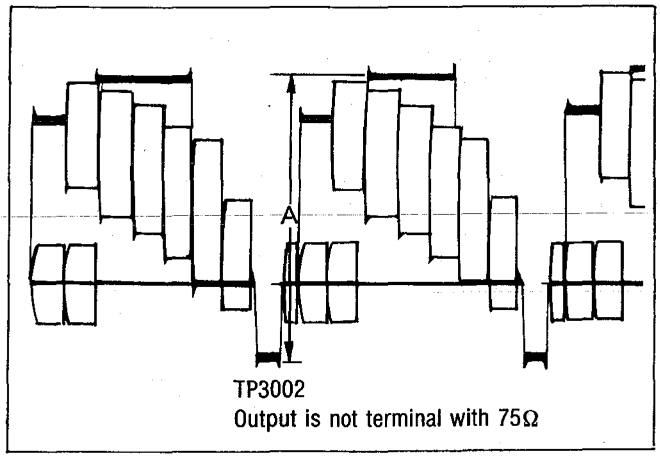


Fig. E1

VIDEO SECTION

5.E–E LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
LINE OUT	VR3009	STOP	COLOUR BAR
TAPE	M.EQ.	SPEC.	
	OSCILLOSCOPE	A=2.0+−0.1Vpp	



TP3002
Output is not terminal with 75Ω

Fig. E2

6. SYNC TIP FREQUENCY ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3002	VR3006	RECOR-DING	NO SIGNAL
TAPE	M.EQ.	SPEC.	
BLANK TAPE	FREQUENCY COUNTER	3.8 MHz±50 KHz	

7. DEVIATION ADJUSTMENT

TP	ADJ.	MODE	INPUT
Pin 2 of P5003 (HOT) Pin 1 of P5003 (GND) (TRIGGER TP2001)	VR3007	RECORDING	COLOUR BAR

TAPE	M.EQ.	SPEC.
BLANK TAPE	SIGNAL GENERATOR OSCILLOSCOPE FREQUENCY COUNTER	INNER BEAT IS MAXIMUM.

(1) Connect a signal generator (sinewave) to TP3002 through a resistor (1Kohm).
Set the frequency and the output level of the signal generator.
Frequency : 4.8MHz +− 50KHz
Output level : 0.1Vp−p

(2) Connect the probe to P5003−2 (HOT) and P5003−1 (GND) on the Head Amp Unit throgh a resistor (1Kohm).

(3) Adjust VR3007 so that the inner beat at white prortion of colour bar becomes maximum.

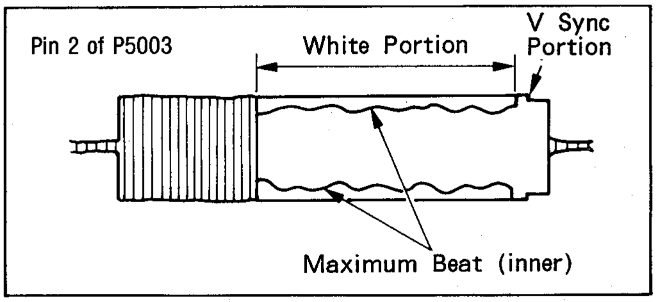

Pin 2 of P5003
White Portion
V Sync Portion
Maximum Beat (inner)

Fig. E3

(Misadjustment)

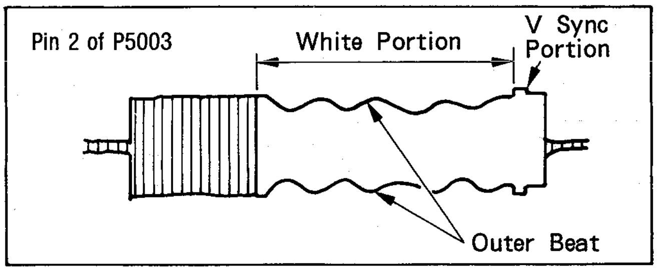

Pin 2 of P5003
White Portion
V Sync Portion
Outer Beat

Fig. E4

8. WHITE AND DARK CRIP ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3003	VR3003: A (WHITE CLIP) VR3004: B (DARK CLIP)	STOP	COLOUR BAR

TAPEE	M.EQ.	SPEC.
	OSCILLOSCOPE	A=180±5% B=160±5%

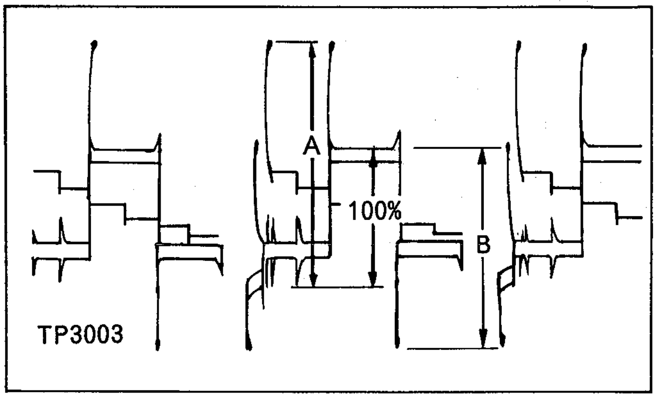

A
100%
B
TP3003

Fig. E5

9. REC CHROMA LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
Pin 2 of P5003 (HOT) Pin 1 of P5003 (GND)	VR8001	RECORDING	COLOUR BAR

TAPE	M.EQ.	SPEC.
BLANK TAPE	OSCILLOSCOPE	A=30±5mVp-p

Note:
Make short circuit using capacitor (16v/10u) between TP3002 and GND.

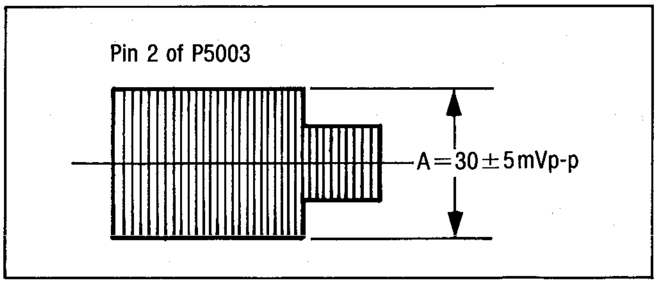

Pin 2 of P5003
A=30±5mVp-p

Fig. E6

10. REC VIDEO LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
Pin 2 of P5003 (HOT) Pin 1 of P5003 (GND)	VR3001	RECORDING	COLOUR BAR

TAPE	MM.EQ.	SPEC.
BLANK TAPE	OSCILLOSCOPE	A=130±5mVp-p

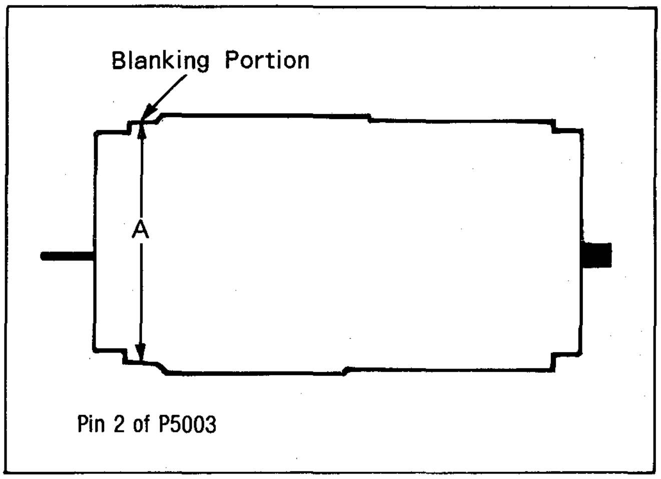

Blanking Portion
A
Pin 2 of P5003

Fig. E7

11. AFC ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP8006	VR8002	STOP	COLOUR BAR

TAPE	M.EQ.	SPEC.
	D.V.M.	2.45±0.025V

12. MIX RATIO ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3004	VR3013	SELF RECORDING AND PLAYBACK	COLOUR BAR

TAPE	M.EQ.	SPEC.
BLANK TAPE	OSILLOSCOPE	A=LESS THAN 16mVp–p

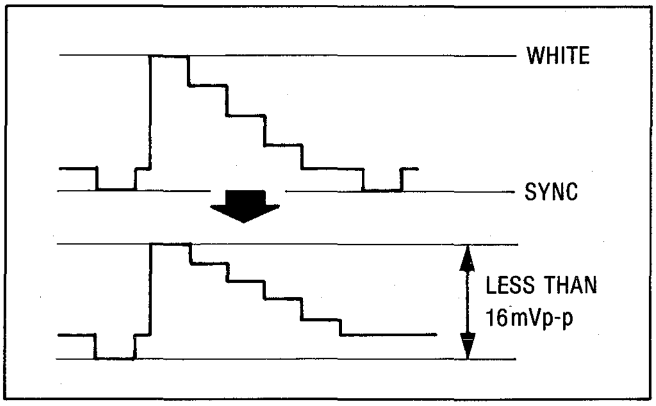

WHITE
SYNC
LESS THAN
16mVp-p

Fig. E8

13. PLAY BACK LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
LINE OUT	VR3012	SELF RECORDING AND PLAYBACK	COLOUR BAR

TAPE	M.EQ.	SPEC.
BLANK TAPE	OSCILLOSCOPE	A=1.0+–0.05Vp–p B=0.5+–0.15Vp–p

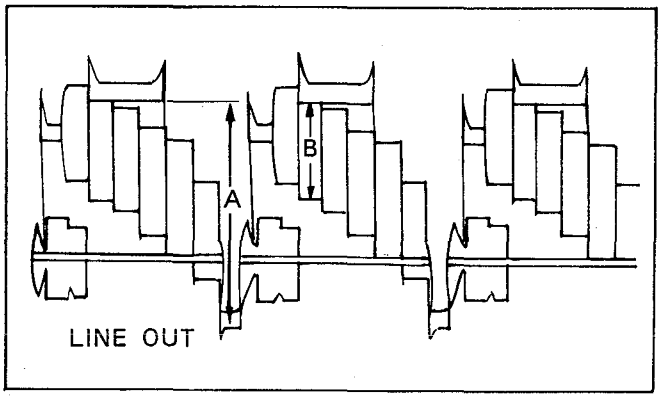


Fig. E9

14. VIDEO FREQUENCY RESPONSE ADJUSTMENT

TP	ADJ.	MODE	INPUT
LINE OUT	VR3010	SELF RECORDING AND PLAYBACK	RF SWEEP SIGNAL

TAPE	M.EQ.	SPEC.
BLANK TAPE	VIDEO SWEEP GEN. OSCILLOSCOPE	A: B=0dB (A=B)

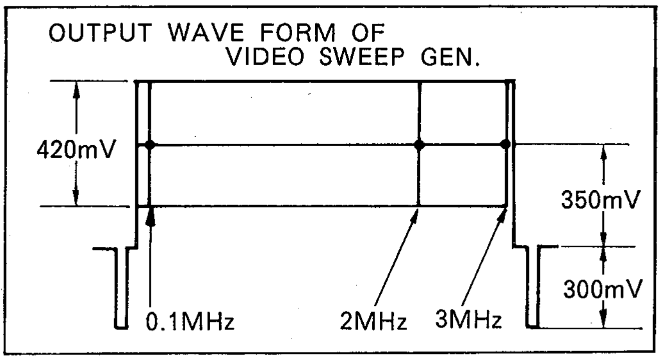

OUTPUT WAVE FORM OF VIDEO SWEEP GEN.
420mV
350mV
300mV
0.1MHz
2MHz
3MHz

Fig. E10

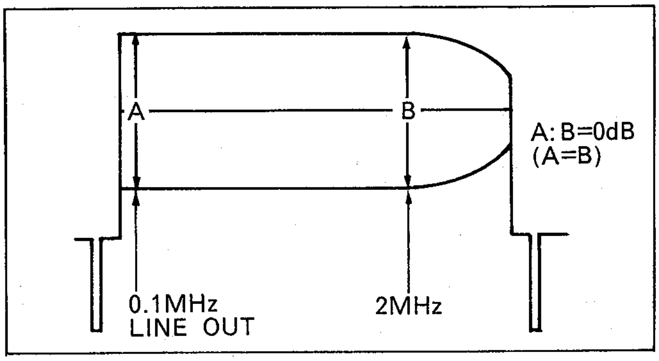

A
B
A: B=0dB
(A=B)
0.1MHz
LINE OUT
2MHz

Fig. E11

AUDIO SECTION

15. AUDIO BIAS CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP4002 (HOT) TP4003 (GND)	VR4002	RECORDING	NO SIGNAL

TAPE	M.EQ.	SPEC.
BLANK TAPE	OSCILLOSCOPE or AC MILLIVOLT METER	3.0±1mVrms

16. AUDIO PLAYBACK LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP4001	VR4001	SELF RECORDING AND PLAYBACK	(AUDIO MIC IN) 1KHz, −60dB

TAPE	M.EQ.	SPEC.
BLANK TAPE	SIGNAL GENERATOR AC MILLIVOLT METER or OSCILLOSCOPE	−7±1dB

SYSTEM CONTROL SECTION

17. UNDER CUT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP6001	VR6001	CAMERA RECORDING	8.8+−0.05V (To P1001)

TAPE	M.EQ.	SPEC.
	DC POWER SUPPLY UNIT D.V.M. OSCILLOSCOPE	

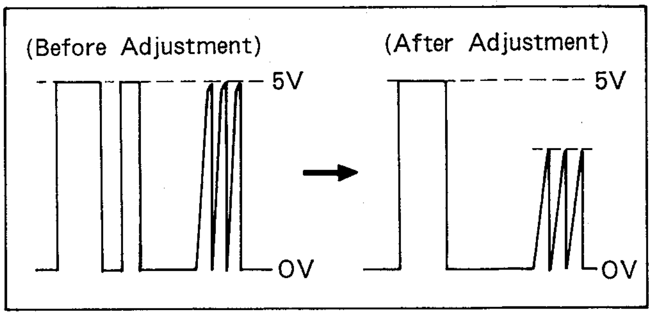
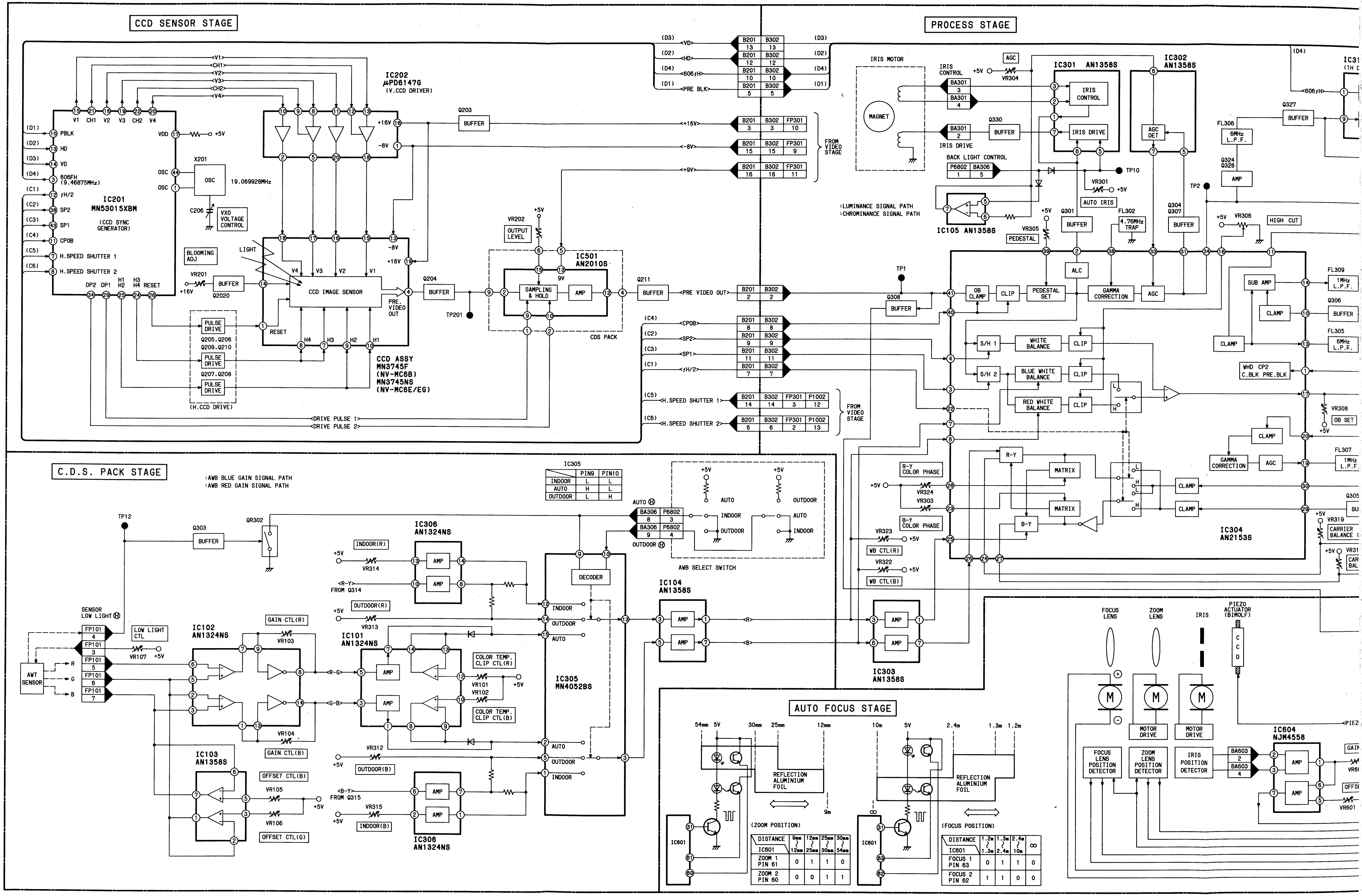

(Before Adjustment)
(After Adjustment)
5V
0V
5V
0V

Fig. E12

Condition :
Do not connect AC Adaptor, Connect a DC Power Supply to pin1 (−) and Pin2 (+) of P1001, then supply the voltage 8.8 +− 0.05V DC.

SECTION 3
BLOCK DIAGRAMS & SCHEMATIC DIAGRAMS
3-1. CAMERA PROCESS BLOCK DIAGRAM


CCD SENSOR STAGE
PROCESS STAGE
C.D.S. PACK STAGE
AUTO FOCUS STAGE
IC201
MN53015XBM
(CCD SYNC GENERATOR)
PBLK
HD
VD
606FH (9.46875MHz)
fH/2
SP2
SP1
CPOB
H.SPEED SHUTTER 1
H.SPEED SHUTTER 2
V1 CH1 V2 V3 CH2 V4
VDD
OSC
X201
19.069928MHz
C206
VXO VOLTAGE CONTROL
IC202
μPD6147G
(V.CCD DRIVER)
+16V
-8V
Q203
BUFFER
BLOOMING ADJ
VR201
Q2020
LIGHT
CCD IMAGE SENSOR
PRE. VIDEO OUT
RESET
PULSE DRIVE
Q205,Q206
Q209,Q210
Q207,Q208
(H.CCD DRIVE)
CCD ASSY
MN3745F
(NV-MC6B)
MN3745NS
(NV-MC6E/EG)
DRIVE PULSE 1
DRIVE PULSE 2
Q204
TP201
VR202
OUTPUT LEVEL
IC501
AN2010S
SAMPLING & HOLD
AMP
CDS PACK
Q211
PRE VIDEO OUT
FROM VIDEO STAGE
B201
B302
FP301
P1002
IRIS MOTOR
MAGNET
IRIS CONTROL
BA301
IRIS DRIVE
AGC
VR304
IC301 AN1358S
IRIS CONTROL
IRIS DRIVE
IC302 AN1358S
AGC DET
Q330
BUFFER
BACK LIGHT CONTROL
P6802
BA306
TP10
VR301
AUTO IRIS
IC105 AN1358S
:LUMINANCE SIGNAL PATH
:CHROMINANCE SIGNAL PATH
VR305
PEDESTAL
Q301
BUFFER
FL302
4.76MHz TRAP
Q304
Q307
TP2
VR306
HIGH CUT
Q327
FL306
6MHz L.P.F.
Q324
Q328
AMP
TP1
Q308
ALC
OB CLAMP
CLIP
PEDESTAL SET
GAMMA CORRECTION
S/H 1
S/H 2
WHITE BALANCE
BLUE WHITE BALANCE
RED WHITE BALANCE
R-Y
B-Y
R-Y COLOR PHASE
B-Y COLOR PHASE
VR324
VR303
MATRIX
CLAMP
VR323
VR322
WB CTL(R)
WB CTL(B)
IC304
AN2153S
SUB AMP
FL309
1MHz L.P.F.
Q306
FL305
6MHz L.P.F.
WHD CP2
C.BLK PRE.BLK
VR308
OB SET
FL307
1MHz L.P.F.
Q305
VR319
CARRIER BALANCE
IC31
:AWB BLUE GAIN SIGNAL PATH
:AWB RED GAIN SIGNAL PATH
TP12
Q303
BUFFER
QR302
SENSOR LOW LIGHT Ⓗ
FP101
LOW LIGHT CTL
VR107
AWT SENSOR
R
G
B
IC102 AN1324NS
GAIN CTL(R)
VR103
GAIN CTL(B)
VR104
IC103 AN1358S
OFFSET CTL(B)
VR105
VR106
OFFSET CTL(G)
IC101 AN1324NS
COLOR TEMP. CLIP CTL(R)
VR101
VR102
COLOR TEMP. CLIP CTL(B)
IC306 AN1324NS
INDOOR(R)
VR314
FROM Q314
OUTDOOR(R)
VR313
VR312
OUTDOOR(B)
VR315
FROM Q315
INDOOR(B)
IC305 MN4052BS
DECODER
INDOOR
OUTDOOR
AUTO
AUTO Ⓗ
OUTDOOR Ⓗ
AWB SELECT SWITCH
IC104 AN1358S
IC303 AN1358S
FOCUS LENS
ZOOM LENS
IRIS
PIEZO ACTUATOR (BIMOLF)
MOTOR DRIVE
FOCUS LENS POSITION DETECTOR
ZOOM LENS POSITION DETECTOR
IRIS POSITION DETECTOR
BA603
IC604 NJM4558
VR601
54mm 5V 30mm 25mm 12mm
10m 5V 2.4m 1.3m 1.2m
REFLECTION ALUMINIUM FOIL
9m
∞
IC601

IC305

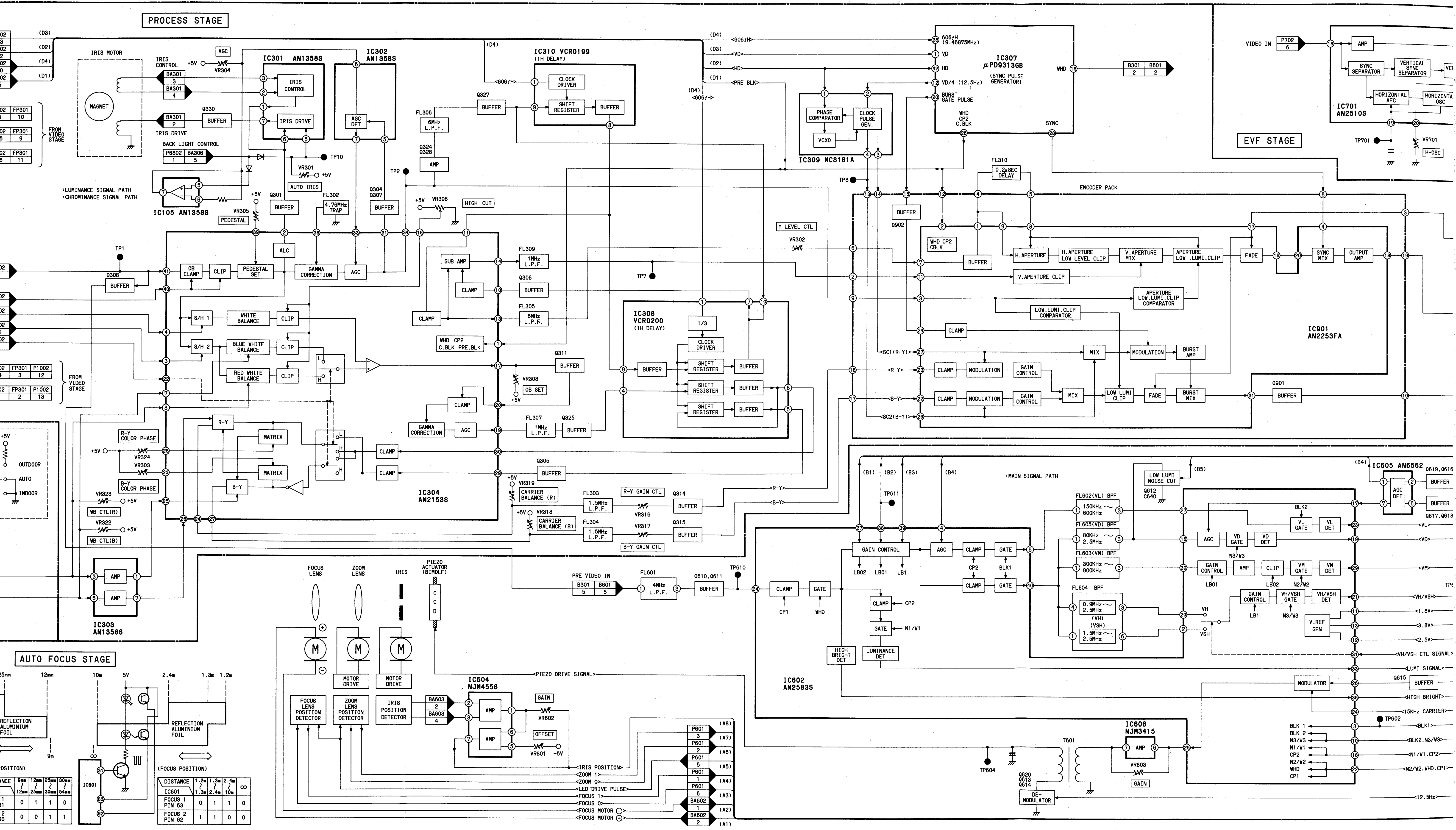
	PIN9	PIN10
INDOOR	L	L
AUTO	H	L
OUTDOOR	L	H

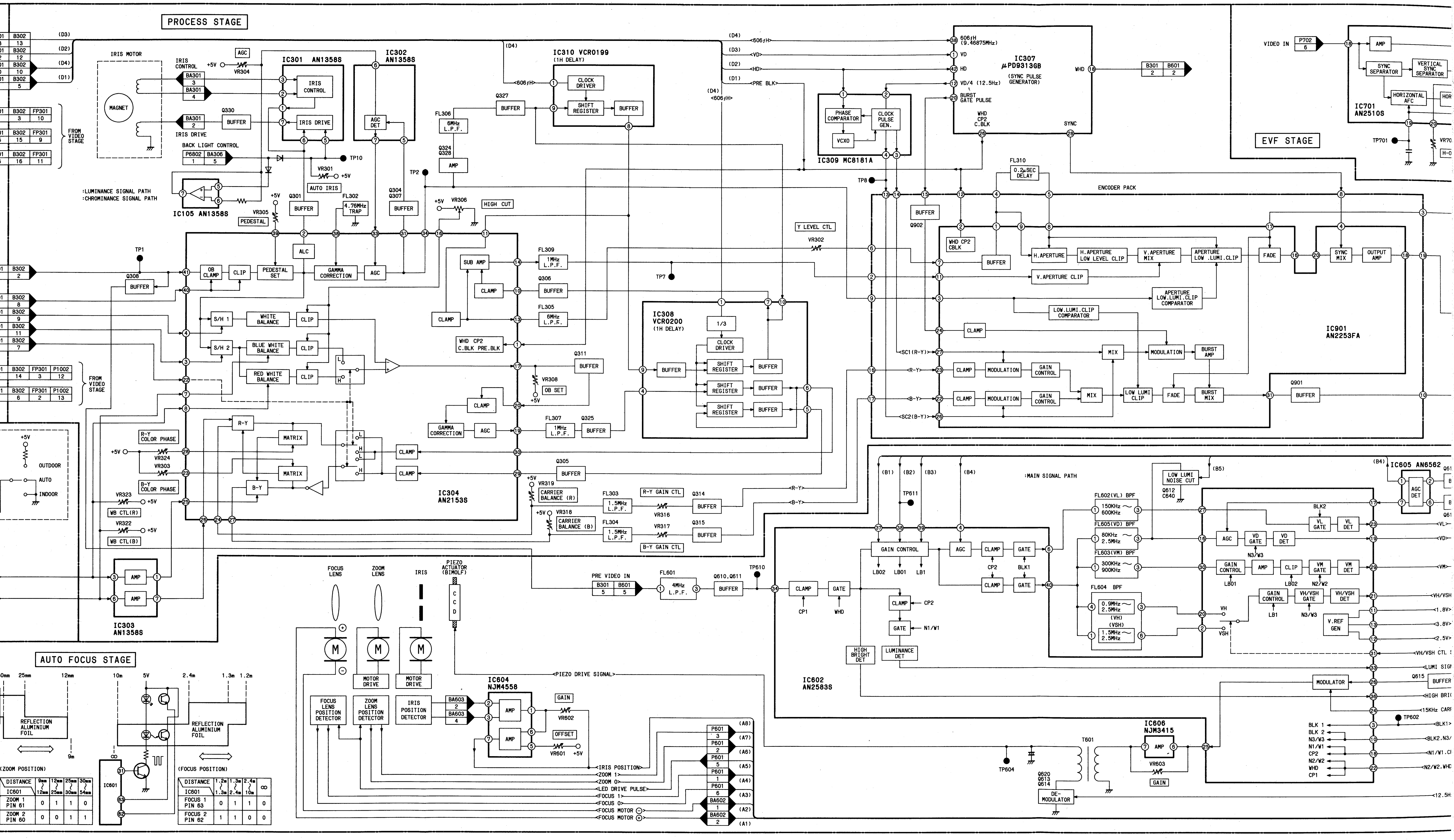
(ZOOM POSITION)

DISTANCE / IC601	9mm ~ 12mm	12mm ~ 25mm	25mm ~ 30mm	30mm ~ 54mm
ZOOM 1 PIN 61	0	1	1	0
ZOOM 2 PIN 60	0	0	1	1

(FOCUS POSITION)

DISTANCE / IC601	1.2m ~ 1.3m	1.3m ~ 2.4m	2.4m ~ 10m	∞
FOCUS 1 PIN 63	0	1	1	0
FOCUS 2 PIN 62	1	1	0	0


PROCESS STAGE
EVF STAGE
AUTO FOCUS STAGE
IRIS MOTOR
MAGNET
IRIS CONTROL
IRIS DRIVE
BACK LIGHT CONTROL
IC301 AN1358S
IC302 AN1358S
IC105 AN1358S
IC303 AN1358S
IC304 AN2153S
IC310 VCR0199 (1H DELAY)
IC308 VCR0200 (1H DELAY)
IC309 MC8181A
IC307 μPD9313GB (SYNC PULSE GENERATOR)
IC701 AN2510S
IC901 AN2253FA
IC602 AN2583S
IC605 AN6562
IC606 NJM3415
IC604 NJM4558
IC601
:LUMINANCE SIGNAL PATH
:CHROMINANCE SIGNAL PATH
:MAIN SIGNAL PATH
FROM VIDEO STAGE
AUTO IRIS
PEDESTAL
AGC DET
OB CLAMP
CLIP
PEDESTAL SET
GAMMA CORRECTION
AGC
ALC
4.76MHz TRAP
HIGH CUT
WHITE BALANCE
BLUE WHITE BALANCE
RED WHITE BALANCE
S/H 1
S/H 2
R-Y COLOR PHASE
B-Y COLOR PHASE
MATRIX
WB CTL(R)
WB CTL(B)
OUTDOOR
AUTO
INDOOR
SUB AMP
CLAMP
WHD CP2 C.BLK PRE.BLK
OB SET
1MHz L.P.F.
6MHz L.P.F.
1.5MHz L.P.F.
CARRIER BALANCE (R)
CARRIER BALANCE (B)
R-Y GAIN CTL
B-Y GAIN CTL
CLOCK DRIVER
SHIFT REGISTER
BUFFER
1/3
PHASE COMPARATOR
CLOCK PULSE GEN.
VCXO
606fH (9.46875MHz)
VD
HD
VD/4 (12.5Hz)
BURST GATE PULSE
WHD CP2 C.BLK
SYNC
Y LEVEL CTL
0.2μSEC DELAY
ENCODER PACK
H.APERTURE
H.APERTURE LOW LEVEL CLIP
V.APERTURE MIX
APERTURE LOW.LUMI.CLIP
FADE
SYNC MIX
OUTPUT AMP
V.APERTURE CLIP
APERTURE LOW.LUMI.CLIP COMPARATOR
LOW.LUMI.CLIP COMPARATOR
MODULATION
BURST AMP
GAIN CONTROL
MIX
LOW LUMI CLIP
BURST MIX
SC1(R-Y)
SC2(B-Y)
VIDEO IN
SYNC SEPARATOR
VERTICAL SYNC SEPARATOR
HORIZONTAL AFC
HORIZONTAL OSC
H-OSC
PRE VIDEO IN
4MHz L.P.F.
GAIN CONTROL
GATE
HIGH BRIGHT DET
LUMINANCE DET
LOW LUMI NOISE CUT
FL602(VL) BPF 150KHz ~ 600KHz
FL605(VD) BPF 80KHz ~ 2.5MHz
FL603(VM) BPF 300KHz ~ 900KHz
FL604 BPF 0.9MHz ~ 2.5MHz (VH) (VSH) 1.5MHz ~ 2.5MHz
VL GATE
VL DET
VD GATE
VD DET
VM GATE
VM DET
VH/VSH GATE
VH/VSH DET
V.REF GEN
MODULATOR
DE-MODULATOR
AGC DET
<VL>
<VD>
<VM>
<VH/VSH>
<1.8V>
<3.8V>
<2.5V>
<VH/VSH CTL SIGNAL>
<LUMI SIGNAL>
<HIGH BRIGHT>
<15KHz CARRIER>
<BLK1>
<BLK2.N3/W3>
<N1/W1.CP2>
<N2/W2.WHD.CP1>
<12.5Hz>
FOCUS LENS
ZOOM LENS
IRIS
PIEZO ACTUATOR (BIMOLF)
CCD
MOTOR DRIVE
FOCUS LENS POSITION DETECTOR
ZOOM LENS POSITION DETECTOR
IRIS POSITION DETECTOR
GAIN
OFFSET
<PIEZO DRIVE SIGNAL>
<IRIS POSITION>
<ZOOM 1>
<ZOOM 0>
<LED DRIVE PULSE>
<FOCUS 1>
<FOCUS 0>
<FOCUS MOTOR ⊖>
<FOCUS MOTOR ⊕>
REFLECTION ALUMINIUM FOIL
(FOCUS POSITION)
DISTANCE
FOCUS 1 PIN 63
FOCUS 2 PIN 62
TP1 TP2 TP7 TP8 TP10 TP601 TP602 TP604 TP610 TP611 TP701

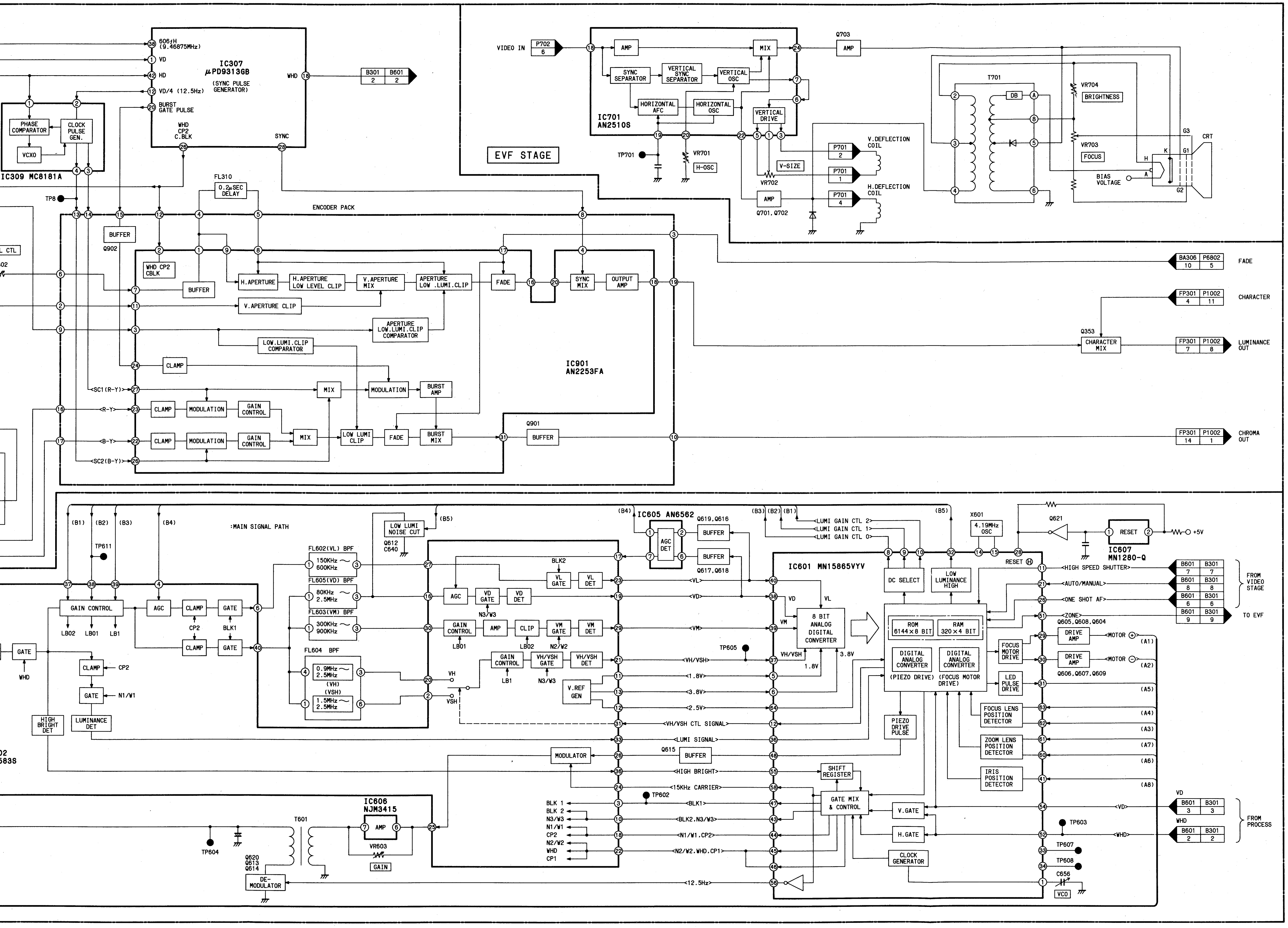

PROCESS STAGE
EVF STAGE
AUTO FOCUS STAGE
IRIS MOTOR
MAGNET
IRIS CONTROL
IRIS DRIVE
BACK LIGHT CONTROL
IC301 AN1358S
IC302 AN1358S
IC105 AN1358S
IC303 AN1358S
IC304 AN2153S
IC310 VCR0199 (1H DELAY)
IC308 VCR0200 (1H DELAY)
IC307 µPD9313GB (SYNC PULSE GENERATOR)
IC309 MC8181A
IC901 AN2253FA
IC701 AN2510S
IC602 AN2583S
IC605 AN6562
IC604 NJM4558
IC606 NJM3415
IC601
:LUMINANCE SIGNAL PATH
:CHROMINANCE SIGNAL PATH
:MAIN SIGNAL PATH
FROM VIDEO STAGE
AGC
AUTO IRIS
PEDESTAL
HIGH CUT
Y LEVEL CTL
OB SET
OB CLAMP
CLIP
PEDESTAL SET
ALC
GAMMA CORRECTION
SUB AMP
CLAMP
S/H 1
S/H 2
WHITE BALANCE
BLUE WHITE BALANCE
RED WHITE BALANCE
R-Y COLOR PHASE
B-Y COLOR PHASE
MATRIX
WB CTL(R)
WB CTL(B)
OUTDOOR
AUTO
INDOOR
WHD CP2 C.BLK PRE.BLK
CARRIER BALANCE (R)
CARRIER BALANCE (B)
R-Y GAIN CTL
B-Y GAIN CTL
BUFFER
CLOCK DRIVER
SHIFT REGISTER
1/3
PHASE COMPARATOR
CLOCK PULSE GEN.
VCXO
606fH (9.46875MHz)
VD
HD
VD/4 (12.5Hz)
BURST GATE PULSE
WHD
SYNC
0.2µSEC DELAY
ENCODER PACK
H.APERTURE
H.APERTURE LOW LEVEL CLIP
V.APERTURE MIX
APERTURE LOW .LUMI.CLIP
V.APERTURE CLIP
APERTURE LOW.LUMI.CLIP COMPARATOR
LOW.LUMI.CLIP COMPARATOR
FADE
SYNC MIX
OUTPUT AMP
MODULATION
GAIN CONTROL
MIX
LOW LUMI CLIP
BURST AMP
BURST MIX
VIDEO IN
AMP
SYNC SEPARATOR
VERTICAL SYNC SEPARATOR
HORIZONTAL AFC
FOCUS LENS
ZOOM LENS
IRIS
PIEZO ACTUATOR (BIMOLF)
CCD
MOTOR DRIVE
FOCUS LENS POSITION DETECTOR
ZOOM LENS POSITION DETECTOR
IRIS POSITION DETECTOR
GAIN
OFFSET
<PIEZO DRIVE SIGNAL>
<IRIS POSITION>
<ZOOM 1>
<ZOOM 0>
<LED DRIVE PULSE>
<FOCUS 1>
<FOCUS 0>
<FOCUS MOTOR ⊖>
<FOCUS MOTOR ⊕>
PRE VIDEO IN
4MHz L.P.F.
GATE
HIGH BRIGHT DET
LUMINANCE DET
LOW LUMI NOISE CUT
FL602(VL) BPF 150KHz ~ 600KHz
FL605(VD) BPF 80KHz ~ 2.5MHz
FL603(VM) BPF 300KHz ~ 900KHz
FL604 BPF 0.9MHz ~ 2.5MHz (VH) (VSH) 1.5MHz ~ 2.5MHz
VL GATE
VL DET
VD GATE
VD DET
VM GATE
VM DET
VH/VSH GATE
VH/VSH DET
V.REF GEN
AGC DET
MODULATOR
DE-MODULATOR
T601
REFLECTION ALUMINIUM FOIL
(ZOOM POSITION)
(FOCUS POSITION)

(ZOOM POSITION)

DISTANCE / IC601	9mm ~ 12mm	12mm ~ 25mm	25mm ~ 30mm	30mm ~ 54mm
ZOOM 1 PIN 61	0	1	1	0
ZOOM 2 PIN 60	0	0	1	1

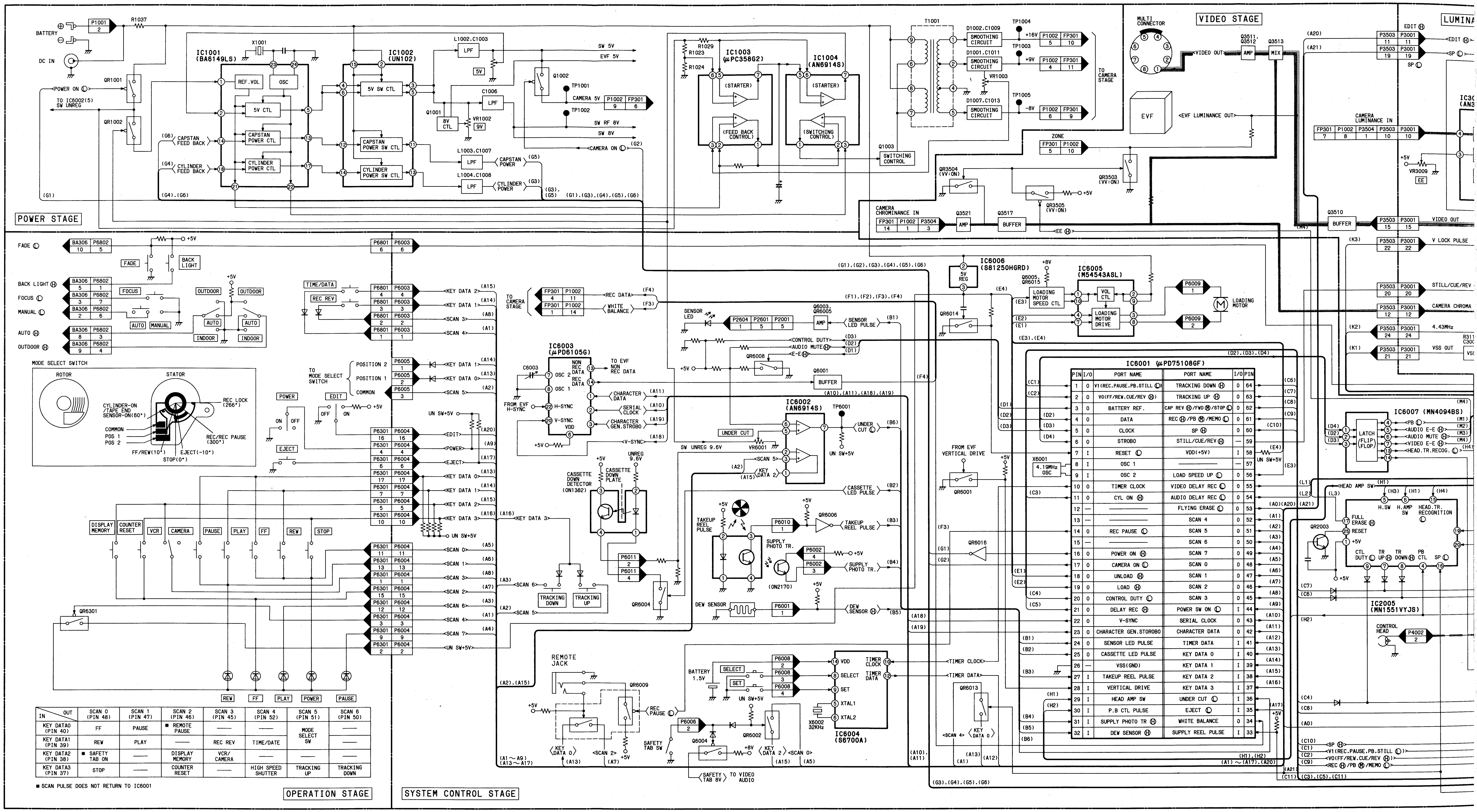
(FOCUS POSITION)

DISTANCE / IC601	1.2m ~ 1.3m	1.3m ~ 2.4m	2.4m ~ 10m	∞
FOCUS 1 PIN 63	0	1	1	0
FOCUS 2 PIN 62	1	1	0	0


IC307
μPD9313GB
(SYNC PULSE GENERATOR)
606fH (9.46875MHz)
VD
HD
VD/4 (12.5Hz)
BURST GATE PULSE
WHD CP2 C.BLK
SYNC
WHD
B301 2
B601 2
PHASE COMPARATOR
CLOCK PULSE GEN.
VCXO
IC309 MC8181A
TP8
FL310
0.2μSEC DELAY
ENCODER PACK
BUFFER
Q902
WHD CP2 CBLK
H.APERTURE
H.APERTURE LOW LEVEL CLIP
V.APERTURE MIX
APERTURE LOW.LUMI.CLIP
FADE
SYNC MIX
OUTPUT AMP
V.APERTURE CLIP
APERTURE LOW.LUMI.CLIP COMPARATOR
LOW.LUMI.CLIP COMPARATOR
IC901
AN2253FA
CLAMP
SC1(R-Y)
R-Y
B-Y
SC2(B-Y)
MODULATION
GAIN CONTROL
MIX
BURST AMP
LOW LUMI CLIP
BURST MIX
Q901
BUFFER
EVF STAGE
VIDEO IN
P702 6
AMP
MIX
SYNC SEPARATOR
VERTICAL SYNC SEPARATOR
VERTICAL OSC
HORIZONTAL AFC
HORIZONTAL OSC
VERTICAL DRIVE
IC701
AN2510S
TP701
VR701
H-OSC
VR702
V-SIZE
Q701, Q702
P701 2
P701 1
P701 4
V.DEFLECTION COIL
H.DEFLECTION COIL
Q703
T701
DB
VR704
BRIGHTNESS
VR703
FOCUS
BIAS VOLTAGE
CRT
G1
G2
G3
K
H
A
BA306 10
P6802 5
FADE
FP301 4
P1002 11
CHARACTER
Q353
CHARACTER MIX
FP301 7
P1002 8
LUMINANCE OUT
FP301 14
P1002 1
CHROMA OUT
:MAIN SIGNAL PATH
(B1) (B2) (B3) (B4) (B5)
TP611
GAIN CONTROL
LB02 LB01 LB1
AGC
GATE
CP2
BLK1
WHD
N1/W1
HIGH BRIGHT DET
LUMINANCE DET
LOW LUMI NOISE CUT
Q612 C640
FL602(VL) BPF
150KHz ~ 600KHz
FL605(VD) BPF
80KHz ~ 2.5MHz
FL603(VM) BPF
300KHz ~ 900KHz
FL604 BPF
0.9MHz ~ 2.5MHz
(VH)
(VSH)
1.5MHz ~ 2.5MHz
VH
VSH
BLK2
VL GATE
VL DET
VD GATE
VD DET
N3/W3
VM GATE
VM DET
CLIP
N2/W2
VH/VSH GATE
VH/VSH DET
V.REF GEN
MODULATOR
Q615
IC605 AN6562
AGC DET
Q619, Q616
Q617, Q618
LUMI GAIN CTL 2
LUMI GAIN CTL 1
LUMI GAIN CTL 0
<VL> <VD> <VM> <VH/VSH> <1.8V> <3.8V> <2.5V>
<VH/VSH CTL SIGNAL>
<LUMI SIGNAL>
<HIGH BRIGHT>
<15KHz CARRIER>
<BLK1>
<BLK2.N3/W3>
<N1/W1.CP2>
<N2/W2.WHD.CP1>
<12.5Hz>
BLK 1 BLK 2 N3/W3 N1/W1 CP2 N2/W2 WHD CP1
TP602
TP605
IC601 MN15865VYV
8 BIT ANALOG DIGITAL CONVERTER
DC SELECT
LOW LUMINANCE HIGH
ROM 6144×8 BIT
RAM 320×4 BIT
DIGITAL ANALOG CONVERTER
(PIEZO DRIVE)
(FOCUS MOTOR DRIVE)
FOCUS MOTOR DRIVE
LED PULSE DRIVE
PIEZO DRIVE PULSE
FOCUS LENS POSITION DETECTOR
ZOOM LENS POSITION DETECTOR
IRIS POSITION DETECTOR
SHIFT REGISTER
GATE MIX & CONTROL
V.GATE
H.GATE
CLOCK GENERATOR
X601
4.19MHz OSC
RESET
Q621
RESET
IC607
MN1280-Q
+5V
<HIGH SPEED SHUTTER>
<AUTO/MANUAL>
<ONE SHOT AF>
<ZONE>
Q605, Q608, Q604
DRIVE AMP
MOTOR ⊕
MOTOR ⊖
Q606, Q607, Q609
(A1) (A2) (A5) (A4) (A3) (A7) (A6) (A8)
B601 7 B301 7
B601 8 B301 8
B601 6 B301 6
B601 9 B301 9
FROM VIDEO STAGE
TO EVF
VD
B601 3 B301 3
WHD
B601 2 B301 2
FROM PROCESS
TP603
TP607
TP608
C656
VCO
IC606
NJM3415
AMP
VR603
GAIN
T601
TP604
Q620 Q613 Q614
DE-MODULATOR
02
583S

Next Page:
VIDEO RECORDER PROCESS Section

3-2. VIDEO RECORDER PROCESS BLOCK DIAGRAM

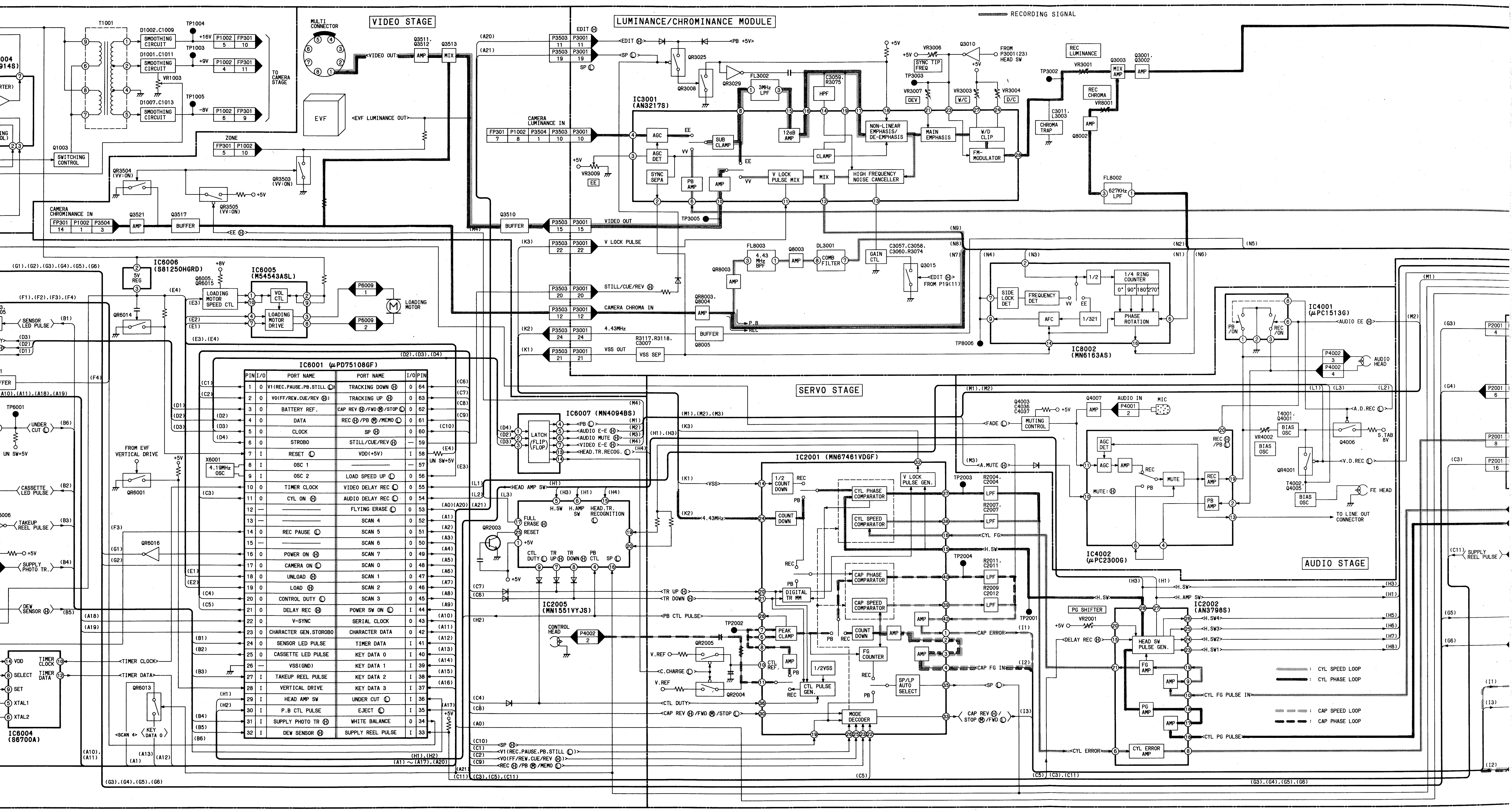

POWER STAGE
OPERATION STAGE
SYSTEM CONTROL STAGE
VIDEO STAGE
LUMINA
BATTERY
DC IN
P1001
R1037
QR1001
QR1002
POWER ON Ⓗ
TO IC6002(5) SW UNREG
IC1001 (BA6149LS)
X1001
REF.VOL
OSC
5V CTL
CAPSTAN POWER CTL
CYLINDER POWER CTL
CAPSTAN FEED BACK
CYLINDER FEED BACK
IC1002 (UN102)
5V SW CTL
CAPSTAN POWER SW CTL
CYLINDER POWER SW CTL
L1002.C1003
LPF
5V
Q1001
8V CTL
VR1002
9V
C1006
L1003.C1007
L1004.C1008
CAPSTAN POWER
CYLINDER POWER
SW 5V
EVF 5V
Q1002
TP1001
CAMERA 5V
TP1002
SW RF 8V
SW 8V
CAMERA ON Ⓛ
R1029
R1023
R1024
IC1003 (μPC358G2)
(STARTER)
(FEED BACK CONTROL)
IC1004 (AN6914S)
(SWITCHING CONTROL)
Q1003
SWITCHING CONTROL
T1001
D1002.C1009
SMOOTHING CIRCUIT
D1001.C1011
D1007.C1013
TP1004
+16V
TP1003
+9V
VR1003
TP1005
-8V
TO CAMERA STAGE
ZONE
QR3504 (VV:ON)
QR3503 (VV:ON)
QR3505 (VV:ON)
CAMERA CHROMINANCE IN
Q3521
AMP
Q3517
BUFFER
EE Ⓗ
MULTI CONNECTOR
VIDEO OUT
Q3511, Q3512
Q3513
MIX
EVF
EVF LUMINANCE OUT
CAMERA LUMINANCE IN
VR3009
EE
Q3510
VIDEO OUT
V LOCK PULSE
STILL/CUE/REV
CAMERA CHROMA
4.43MHz
VSS OUT
EDIT Ⓗ
SP Ⓛ
FADE Ⓛ
BACK LIGHT Ⓗ
FOCUS Ⓛ
MANUAL Ⓛ
AUTO Ⓗ
OUTDOOR Ⓗ
FADE
BACK LIGHT
FOCUS
OUTDOOR
AUTO
MANUAL
INDOOR
MODE SELECT SWITCH
ROTOR
STATOR
CYLINDER-ON /TAPE END SENSOR-ON(60°)
REC LOCK (266°)
COMMON
POS 1
POS 2
REC/REC PAUSE (300°)
FF/REW(10°)
EJECT(-10°)
STOP(0°)
TIME/DATA
REC REV
TO MODE SELECT SWITCH
POSITION 2
POSITION 1
COMMON
POWER
EDIT
ON
OFF
EJECT
KEY DATA 0
KEY DATA 1
KEY DATA 2
KEY DATA 3
SCAN 0
SCAN 1
SCAN 2
SCAN 3
SCAN 4
SCAN 5
SCAN 6
SCAN 7
UN SW+5V
DISPLAY MEMORY
COUNTER RESET
VCR
CAMERA
PAUSE
PLAY
FF
REW
STOP
QR6301
TO CAMERA STAGE
REC DATA
WHITE BALANCE
IC6003 (μPD6105G)
C6003
OSC 2
OSC 1
H-SYNC
V-SYNC
VDD
NON REC DATA
REC DATA
TO EVF NON REC DATA
FROM EVF H-SYNC
CHARACTER DATA
SERIAL CLOCK
CHARACTER GEN.STROBO
CASSETTE DOWN DETECTOR (ON1382)
CASSETTE DOWN PLATE
UNREG 9.6V
TRACKING DOWN
TRACKING UP
QR6004
SENSOR LED
Q6003, QR6005
SENSOR LED PULSE
CONTROL DUTY
AUDIO MUTE Ⓗ
E-E Ⓗ
QR6008
Q6001
BUFFER
IC6002 (AN6914S)
TP6001
UNDER CUT
VR6001
UNDER CUT Ⓛ
SW UNREG 9.6V
TAKEUP REEL PULSE
SUPPLY PHOTO TR.
(ON2170)
QR6006
DEW SENSOR
DEW SENSOR Ⓗ
REMOTE JACK
QR6009
REC PAUSE Ⓛ
SAFETY TAB SW
BATTERY 1.5V
SELECT
SET
Q6004
QR6002
X6002 32KHz
IC6004 (S6700A)
VDD
TIMER CLOCK
TIMER DATA
XTAL1
XTAL2
SAFETY TAB 8V
TO VIDEO AUDIO
IC6006 (S81250HGRD)
5V REG
IC6005 (M54543ASL)
LOADING MOTOR SPEED CTL
VOL CTL
LOADING MOTOR DRIVE
LOADING MOTOR
QR6014
FROM EVF VERTICAL DRIVE
QR6016
QR6013
X6001 4.19MHz OSC
IC6001 (μPD75108GF)
IC6007 (MN4094BS)
LATCH (FLIP FLOP)
AUDIO E-E Ⓗ
AUDIO MUTE Ⓗ
VIDEO E-E Ⓗ
HEAD.TR.RECOG. Ⓛ
HEAD AMP SW
H.SW
H.AMP SW
HEAD.TR. RECOGNITION
FULL ERASE Ⓗ
RESET
CTL DUTY Ⓛ
TR UP Ⓗ
TR DOWN Ⓗ
PB CTL
SP Ⓛ
QR2003
IC2005 (MN1551VYJS)
CONTROL HEAD
P4002
V1(REC.PAUSE.PB.STILL Ⓛ)
V0(FF/REW.CUE/REV Ⓗ)
REC Ⓗ/PB Ⓜ/MEMO Ⓛ

IN \ OUT	SCAN 0 (PIN 48)	SCAN 1 (PIN 47)	SCAN 2 (PIN 46)	SCAN 3 (PIN 45)	SCAN 4 (PIN 52)	SCAN 5 (PIN 51)	SCAN 6 (PIN 50)
KEY DATA0 (PIN 40)	FF	PAUSE	✱ REMOTE PAUSE	——	——	MODE SELECT SW	——
KEY DATA1 (PIN 39)	REW	PLAY	——	REC REV	TIME/DATE		——
KEY DATA2 (PIN 38)	✱ SAFETY TAB ON	——	DISPLAY MEMORY	VCR/ CAMERA	——	——	——
KEY DATA3 (PIN 37)	STOP	——	COUNTER RESET	——	HIGH SPEED SHUTTER	TRACKING UP	TRACKING DOWN

✱ SCAN PULSE DOES NOT RETURN TO IC6001

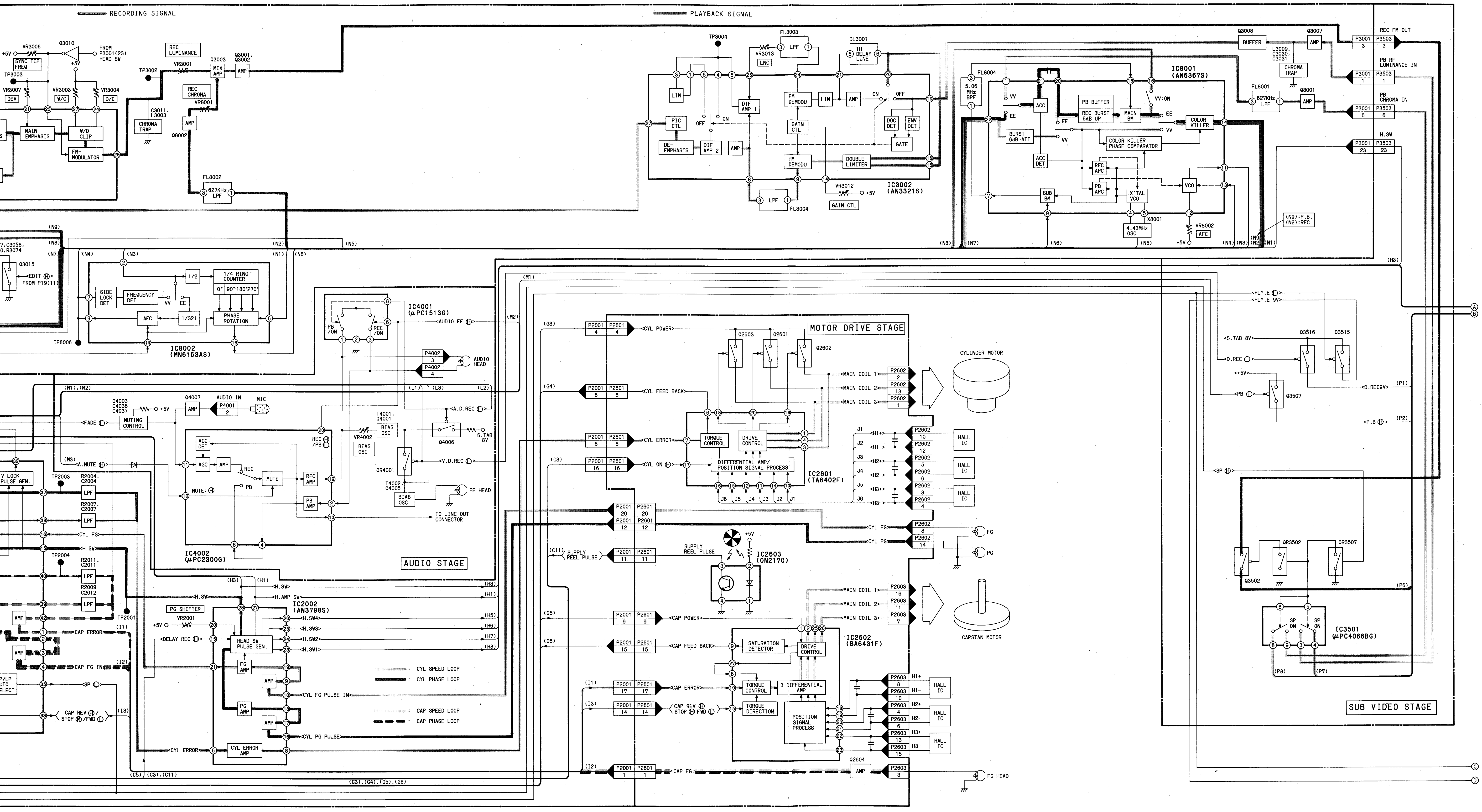
IC6001 (μPD75108GF)

PIN	I/O	PORT NAME	PORT NAME	I/O	PIN
1	0	V1(REC.PAUSE.PB.STILL Ⓛ)	TRACKING DOWN Ⓗ	0	64
2	0	V0(FF/REW.CUE/REV Ⓗ)	TRACKING UP Ⓗ	0	63
3	0	BATTERY REF.	CAP REV Ⓗ/FWD Ⓜ/STOP Ⓛ	0	62
4	0	DATA	REC Ⓗ/PB Ⓜ/MEMO Ⓛ	0	61
5	0	CLOCK	SP Ⓗ	0	60
6	0	STROBO	STILL/CUE/REV Ⓗ	—	59
7	I	RESET Ⓛ	VDD(+5V)	I	58
8	I	OSC 1	——	—	57
9	I	OSC 2	LOAD SPEED UP Ⓛ	0	56
10	0	TIMER CLOCK	VIDEO DELAY REC Ⓛ	0	55
11	0	CYL ON Ⓗ	AUDIO DELAY REC Ⓛ	0	54
12	—	——	FLYING ERASE Ⓛ	0	53
13	—	——	SCAN 4	0	52
14	0	REC PAUSE Ⓛ	SCAN 5	0	51
15	—	——	SCAN 6	0	50
16	0	POWER ON Ⓗ	SCAN 7	0	49
17	0	CAMERA ON Ⓛ	SCAN 0	0	48
18	0	UNLOAD Ⓗ	SCAN 1	0	47
19	0	LOAD Ⓗ	SCAN 2	0	46
20	0	CONTROL DUTY Ⓛ	SCAN 3	0	45
21	0	DELAY REC Ⓗ	POWER SW ON Ⓛ	I	44
22	0	V-SYNC	SERIAL CLOCK	0	43
23	0	CHARACTER GEN.STOROBO	CHARACTER DATA	0	42
24	0	SENSOR LED PULSE	TIMER DATA	I	41
25	0	CASSETTE LED PULSE	KEY DATA 0	I	40
26	—	VSS(GND)	KEY DATA 1	I	39
27	I	TAKEUP REEL PULSE	KEY DATA 2	I	38
28	I	VERTICAL DRIVE	KEY DATA 3	I	37
29	I	HEAD AMP SW	UNDER CUT Ⓛ	I	36
30	I	P.B CTL PULSE	EJECT Ⓛ	I	35
31	I	SUPPLY PHOTO TR Ⓗ	WHITE BALANCE	0	34
32	I	DEW SENSOR Ⓗ	SUPPLY REEL PULSE	I	33

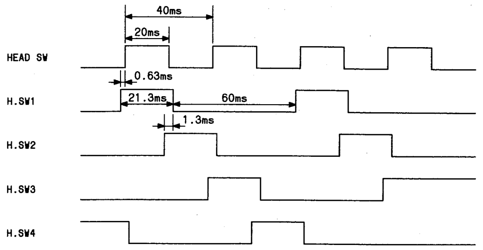

VIDEO STAGE
LUMINANCE/CHROMINANCE MODULE
RECORDING SIGNAL
SERVO STAGE
AUDIO STAGE
T1001
SMOOTHING CIRCUIT
TO CAMERA STAGE
SWITCHING CONTROL
MULTI CONNECTOR
EVF
CAMERA CHROMINANCE IN
CAMERA LUMINANCE IN
IC3001 (AN3217S)
IC6006 (S8125OHGRD)
IC6005 (M54543ASL)
LOADING MOTOR
IC6007 (MN4094BS)
IC2005 (MN1551VYJS)
IC2001 (MN67461VDGF)
IC8002 (MN6163AS)
IC4001 (μPC1513G)
IC4002 (μPC2300G)
IC2002 (AN3798S)
IC6004 (S6700A)
CYL SPEED LOOP
CYL PHASE LOOP
CAP SPEED LOOP
CAP PHASE LOOP
AUDIO HEAD
MIC
FE HEAD
CONTROL HEAD
TO LINE OUT CONNECTOR

IC6001 (μPD75108GF)

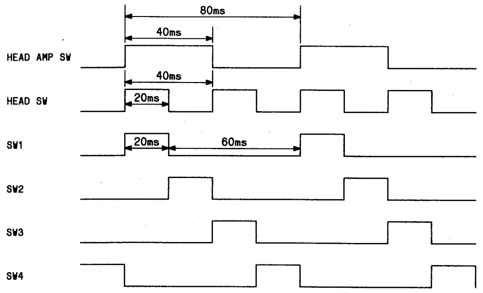
PIN	I/O	PORT NAME	PORT NAME	I/O	PIN
1	0	V1(REC.PAUSE.PB.STILL Ⓛ)	TRACKING DOWN Ⓗ	0	64
2	0	V0(FF/REW.CUE/REV Ⓗ)	TRACKING UP Ⓗ	0	63
3	0	BATTERY REF.	CAP REV Ⓗ/FWD Ⓜ/STOP Ⓛ	0	62
4	0	DATA	REC Ⓗ/PB Ⓜ/MEMO Ⓛ	0	61
5	0	CLOCK	SP Ⓗ	0	60
6	0	STROBO	STILL/CUE/REV Ⓗ	—	59
7	I	RESET Ⓛ	VDD(+5V)	I	58
8	I	OSC 1	————	—	57
9	I	OSC 2	LOAD SPEED UP Ⓛ	0	56
10	0	TIMER CLOCK	VIDEO DELAY REC Ⓛ	0	55
11	0	CYL ON Ⓗ	AUDIO DELAY REC Ⓛ	0	54
12	—	————	FLYING ERASE Ⓛ	0	53
13	—	————	SCAN 4	0	52
14	0	REC PAUSE Ⓛ	SCAN 5	0	51
15	—	————	SCAN 6	0	50
16	0	POWER ON Ⓗ	SCAN 7	0	49
17	0	CAMERA ON Ⓛ	SCAN 0	0	48
18	0	UNLOAD Ⓗ	SCAN 1	0	47
19	0	LOAD Ⓗ	SCAN 2	0	46
20	0	CONTROL DUTY Ⓛ	SCAN 3	0	45
21	0	DELAY REC Ⓗ	POWER SW ON Ⓛ	I	44
22	0	V-SYNC	SERIAL CLOCK	0	43
23	0	CHARACTER GEN.STOROBO	CHARACTER DATA	0	42
24	0	SENSOR LED PULSE	TIMER DATA	I	41
25	0	CASSETTE LED PULSE	KEY DATA 0	I	40
26	—	VSS(GND)	KEY DATA 1	I	39
27	I	TAKEUP REEL PULSE	KEY DATA 2	I	38
28	I	VERTICAL DRIVE	KEY DATA 3	I	37
29	I	HEAD AMP SW	UNDER CUT Ⓛ	I	36
30	I	P.B CTL PULSE	EJECT Ⓛ	I	35
31	I	SUPPLY PHOTO TR Ⓗ	WHITE BALANCE	0	34
32	I	DEW SENSOR Ⓗ	SUPPLY REEL PULSE	I	33


RECORDING SIGNAL
PLAYBACK SIGNAL
VR3006
Q3010
SYNC TIP FREQ
FROM P3001(23) HEAD SW
TP3003
VR3007
DEV
VR3003
W/C
VR3004
D/C
MAIN EMPHASIS
W/D CLIP
FM-MODULATOR
REC LUMINANCE
TP3002
VR3001
MIX AMP
Q3003
Q3001, Q3002
AMP
REC CHROMA
VR8001
Q8002
C3011, L3003
CHROMA TRAP
FL8002
627KHz LPF
TP3004
FL3003
LPF
VR3013
LNC
DL3001
1H DELAY LINE
LIM
PIC CTL
DE-EMPHASIS
DIF AMP 1
DIF AMP 2
FM DEMODU
GAIN CTL
DOC DET
ENV DET
GATE
DOUBLE LIMITER
VR3012
GAIN CTL
LPF
FL3004
IC3002 (AN3321S)
Q3008
BUFFER
Q3007
L3009, C3030, C3031
CHROMA TRAP
FL8004
5.06 MHz BPF
IC8001 (AN6367S)
ACC
PB BUFFER
REC BURST 6dB UP
MAIN BM
VV:ON
COLOR KILLER
BURST 6dB ATT
COLOR KILLER PHASE COMPARATOR
ACC DET
REC APC
PB APC
X'TAL VCO
VCO
SUB BM
4.43MHz OSC
X8001
VR8002
AFC
FL8001
627KHz LPF
Q8001
REC FM OUT
P3001 P3503
PB RF LUMINANCE IN
PB CHROMA IN
H.SW
(N9):P.B. (N2):REC
IC8002 (MN6163AS)
SIDE LOCK DET
FREQUENCY DET
1/4 RING COUNTER
PHASE ROTATION
AFC
1/321
TP8006
Q3015
EDIT FROM P19(11)
IC4001 (μPC1513G)
AUDIO EE
P4002
AUDIO HEAD
Q4003 C4036 C4037
MUTING CONTROL
FADE
Q4007
AUDIO IN
P4001
MIC
AGC DET
MUTE
REC AMP
PB AMP
T4001, Q4001
BIAS OSC
VR4002
Q4006
S.TAB 8V
QR4001
T4002, Q4005
FE HEAD
TO LINE OUT CONNECTOR
IC4002 (μPC2300G)
AUDIO STAGE
A.MUTE
TP2003
R2004, C2004
LPF
R2007, C2007
CYL FG
H.SW
TP2004
R2011, C2011
R2009 C2012
TP2001
CAP ERROR
CAP FG IN
SP
CAP REV / STOP /FWD
CYL ERROR
PG SHIFTER
VR2001
DELAY REC
IC2002 (AN3798S)
HEAD SW PULSE GEN.
FG AMP
PG AMP
CYL ERROR AMP
CYL FG PULSE IN
CYL PG PULSE
H.AMP SW
H.SW4
H.SW3
H.SW2
H.SW1
CYL SPEED LOOP
CYL PHASE LOOP
CAP SPEED LOOP
CAP PHASE LOOP
P2001 P2601
CYL POWER
CYL FEED BACK
CYL ERROR
CYL ON
MOTOR DRIVE STAGE
Q2603
Q2601
Q2602
MAIN COIL 1
MAIN COIL 2
MAIN COIL 3
P2602
CYLINDER MOTOR
TORQUE CONTROL
DRIVE CONTROL
DIFFERENTIAL AMP/ POSITION SIGNAL PROCESS
IC2601 (TA8402F)
HALL IC
FG
PG
SUPPLY REEL PULSE
IC2603 (ON2170)
CAP POWER
CAP FEED BACK
SATURATION DETECTOR
IC2602 (BA6431F)
3 DIFFERENTIAL AMP
TORQUE DIRECTION
POSITION SIGNAL PROCESS
P2603
CAPSTAN MOTOR
Q2604
CAP FG
FG HEAD
FLY.E
FLY.E 9V
S.TAB 8V
Q3516
Q3515
D.REC
D.REC9V
Q3507
P.B
QR3502
QR3507
Q3502
IC3501 (μPC4066BG)
SP ON
SUB VIDEO STAGE

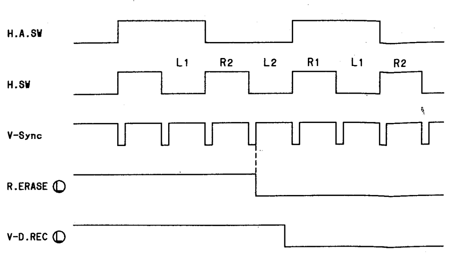
H.SW TIMING CHART (REC MODE)



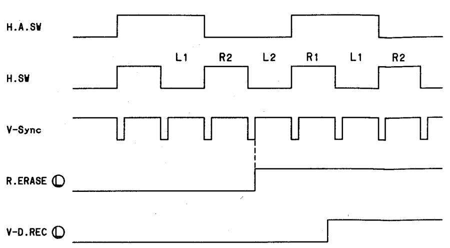
H.SW TIMING CHART (P.B MODE)

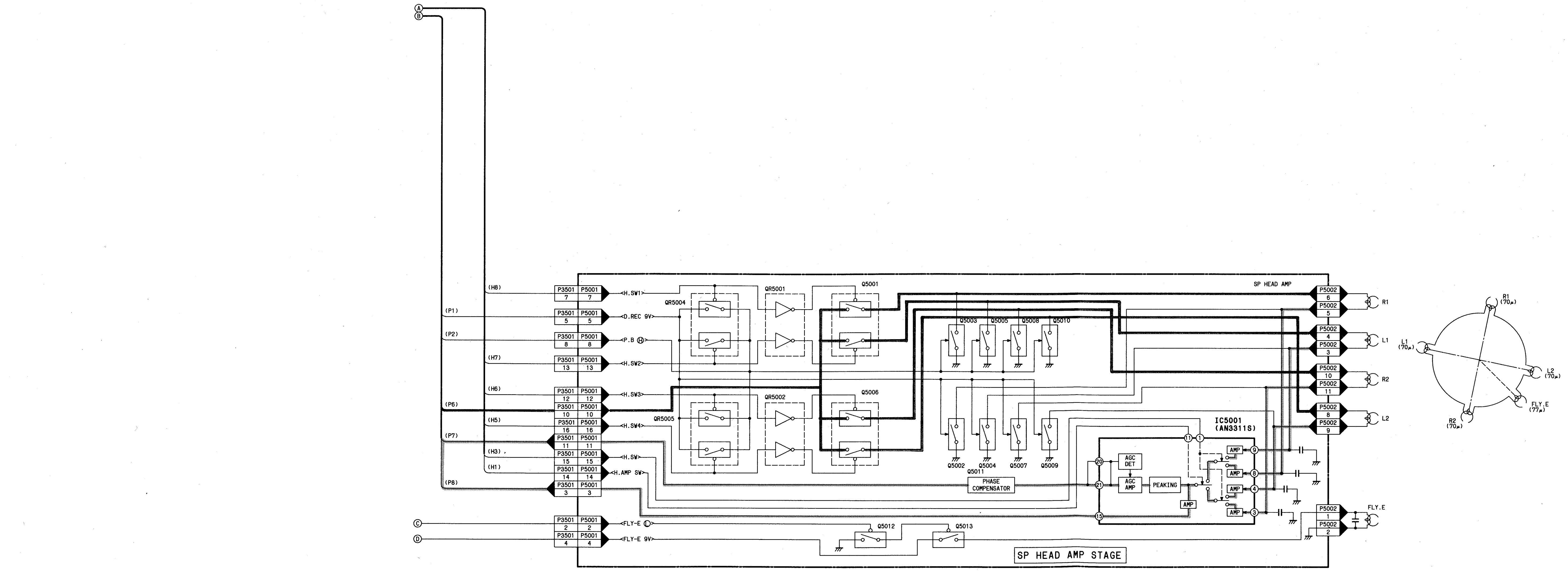


REC.INSERT START

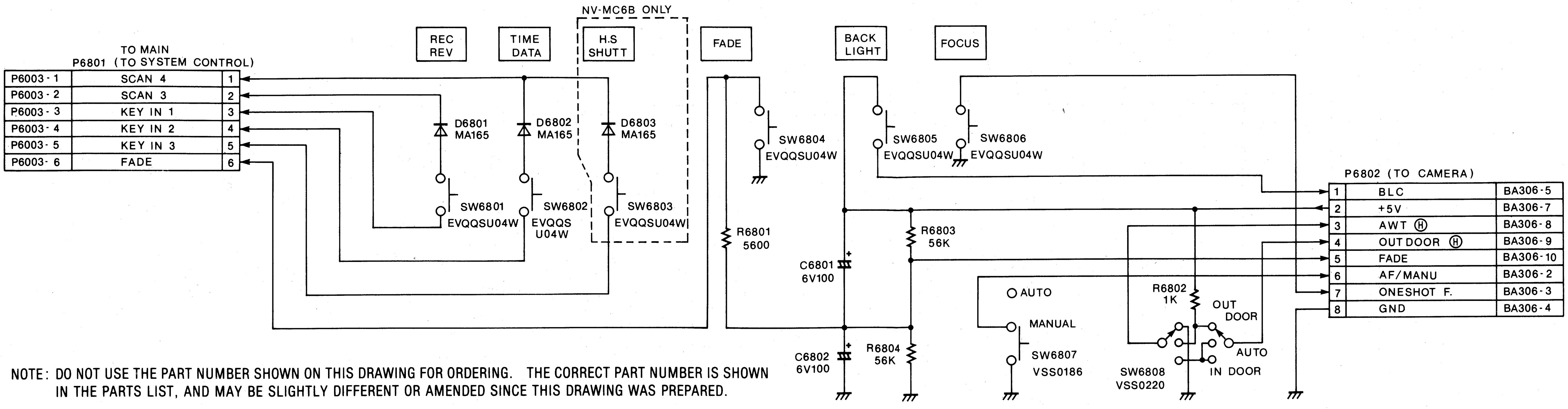


REC.INSERT END



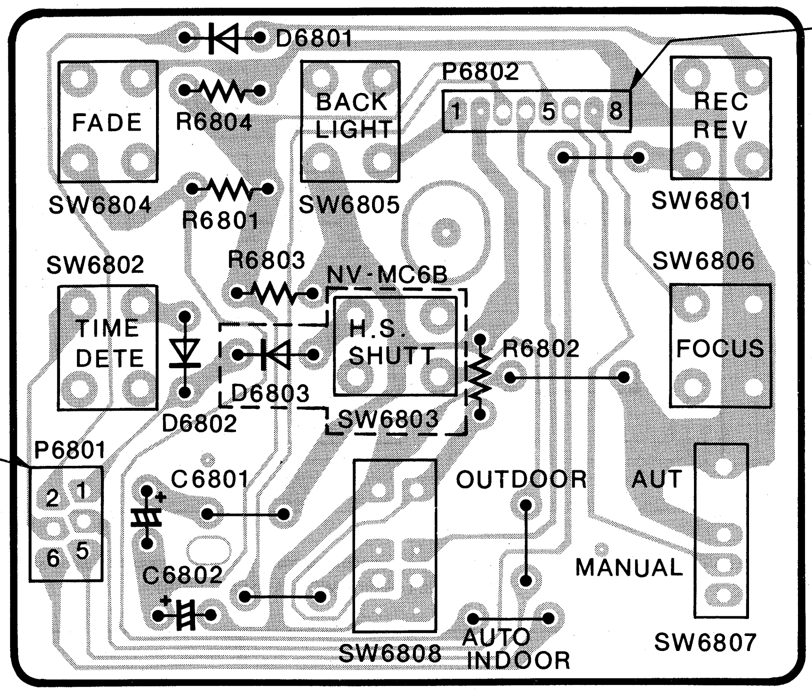

Ⓐ
Ⓑ
Ⓒ
Ⓓ
(H8)
(P1)
(P2)
(H7)
(H6)
(P6)
(H5)
(P7)
(H3)
(H1)
(P8)
P3501
P5001
<H.SW1>
<D.REC 9V>
<P.B Ⓗ>
<H.SW2>
<H.SW3>
<H.SW4>
<H.SW>
<H.AMP SW>
<FLY-E Ⓛ>
<FLY-E 9V>
QR5004
QR5005
QR5001
QR5002
Q5001
Q5006
Q5003
Q5005
Q5008
Q5010
Q5002
Q5004
Q5007
Q5009
Q5011
PHASE COMPENSATOR
Q5012
Q5013
SP HEAD AMP
IC5001
(AN3311S)
AGC DET
AGC AMP
PEAKING
AMP
P5002
R1
L1
R2
L2
FLY.E
R1 (70μ)
L1 (70μ)
L2 (70μ)
FLY.E (77μ)
R2 (70μ)
SP HEAD AMP STAGE

3-3. CAMERA OPERATION SCHEMATIC DIAGRAM


NV-MC6B ONLY
REC REV
TIME DATA
H.S SHUTT
FADE
BACK LIGHT
FOCUS
TO MAIN
P6801 (TO SYSTEM CONTROL)
P6003-1 SCAN 4 1
P6003-2 SCAN 3 2
P6003-3 KEY IN 1 3
P6003-4 KEY IN 2 4
P6003-5 KEY IN 3 5
P6003-6 FADE 6
D6801 MA165
D6802 MA165
D6803 MA165
SW6801 EVQQSU04W
SW6802 EVQQS U04W
SW6803 EVQQSU04W
SW6804 EVQQSU04W
SW6805 EVQQSU04W
SW6806 EVQQSU04W
R6801 5600
C6801 6V100
R6803 56K
C6802 6V100
R6804 56K
AUTO
MANUAL
SW6807 VSS0186
R6802 1K
OUT DOOR
AUTO
IN DOOR
SW6808 VSS0220
P6802 (TO CAMERA)
1 BLC BA306-5
2 +5V BA306-7
3 AWT Ⓗ BA306-8
4 OUTDOOR Ⓗ BA306-9
5 FADE BA306-10
6 AF/MANU BA306-2
7 ONESHOT F. BA306-3
8 GND BA306-4

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

3-4. CAMERA OPERATION C.B.A. (VEP06445A: NV-MC6B) (VEP06445B: NV-MC6EG/E)


D6801
FADE
R6804
BACK LIGHT
P6802
1 5 8
REC REV
SW6804
R6801
SW6805
SW6801
SW6802
R6803
NV-MC6B
SW6806
TIME DETE
H.S. SHUTT
R6802
FOCUS
D6803
D6802
SW6803
P6801
2 1
6 5
C6801
OUTDOOR
AUT
C6802
MANUAL
SW6808
AUTO INDOOR
SW6807

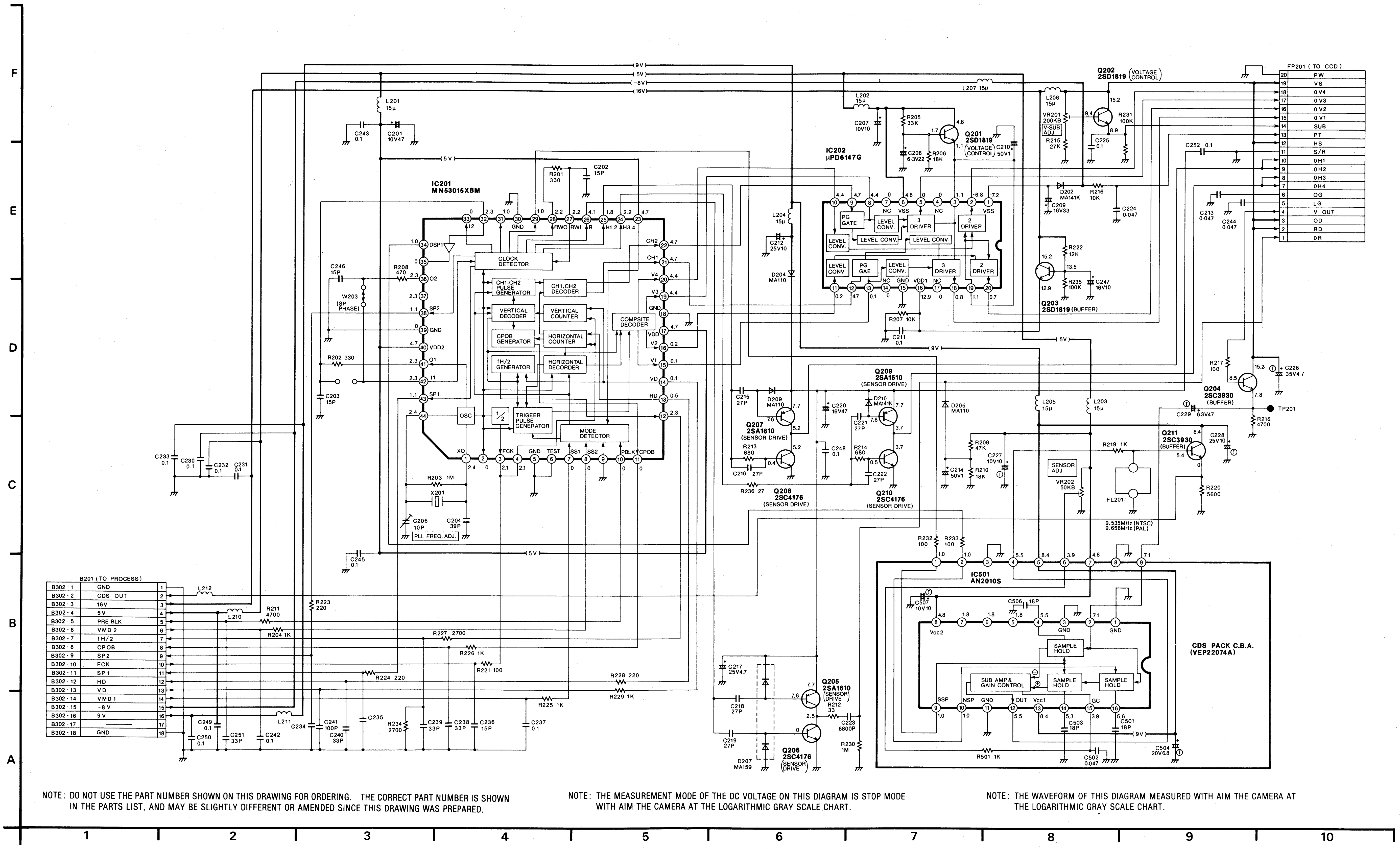
P6802

1	BLC
2	+5V
3	AWT Ⓗ
4	OUTDOOR Ⓗ
5	FADE
6	AF/MANU
7	ONE SHOTF
8	GND

P6801

1	SCAN 4
2	SCAN 3
3	KEY IN 1
4	KEY IN 2
5	KEY IN 3
6	FADE

SENSOR & CDS SCHEMATIC DIAGRAM


F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
IC201
MN53015XBM
CLOCK DETECTOR
CH1,CH2 PULSE GENERATOR
CH1,CH2 DECODER
VERTICAL DECODER
VERTICAL COUNTER
CPOB GENERATOR
HORIZONTAL COUNTER
fH/2 GENERATOR
HORIZONTAL DECORDER
COMPSITE DECODER
OSC
1/2
TRIGEER PULSE GENERATOR
MODE DETECTOR
DSP1
O2
SP2
GND
VDD2
O1
SP1
I2
I1
XO
FCK
TEST
SS1
SS2
PBLK
CPOB
RWO
RWI
R
H1.2
H3.4
CH2
CH1
V4
V3
VDD
V2
V1
VD
HD
IC202
µPD6147G
PG GATE
LEVEL CONV.
3 DRIVER
2 DRIVER
NC
VSS
VDD1
Q201
2SD1819
(VOLTAGE CONTROL)
Q202
2SD1819 (VOLTAGE CONTROL)
Q203
2SD1819 (BUFFER)
Q204
2SC3930
(BUFFER)
Q211
2SC3930
(BUFFER)
Q205
2SA1610
(SENSOR DRIVE)
Q206
2SC4176
(SENSOR DRIVE)
Q207
2SA1610
(SENSOR DRIVE)
Q208
2SC4176
(SENSOR DRIVE)
Q209
2SA1610
(SENSOR DRIVE)
Q210
2SC4176
(SENSOR DRIVE)
IC501
AN2010S
SAMPLE HOLD
SUB AMP & GAIN CONTROL
SSP
NSP
GND
OUT
Vcc1
Vcc2
GC
CDS PACK C.B.A.
(VEP22074A)
SENSOR ADJ.
VR202
50KB
FL201
9.535MHz (NTSC)
9.656MHz (PAL)
VR201
200KB
V-SUB ADJ.
PLL FREQ. ADJ.
W203
(SP PHASE)
X201
TP201
(9V)
(5V)
(-8V)
(16V)
FP201 (TO CCD)
20 PW
19 VS
18 OV4
17 OV3
16 OV2
15 OV1
14 SUB
13 PT
12 HS
11 S/R
10 OH1
9 OH2
8 OH3
7 OH4
6 OG
5 LG
4 V OUT
3 OD
2 RD
1 OR
B201 (TO PROCESS)
B302 - 1 GND 1
B302 - 2 CDS OUT 2
B302 - 3 16V 3
B302 - 4 5V 4
B302 - 5 PRE BLK 5
B302 - 6 VMD 2 6
B302 - 7 fH/2 7
B302 - 8 CPOB 8
B302 - 9 SP2 9
B302 - 10 FCK 10
B302 - 11 SP1 11
B302 - 12 HD 12
B302 - 13 VD 13
B302 - 14 VMD 1 14
B302 - 15 -8V 15
B302 - 16 9V 16
B302 - 17 17
B302 - 18 GND 18
L201 15µ
L202 15µ
L203 15µ
L204 15µ
L205 15µ
L206 15µ
L207 15µ
L210
L211
L212
C201 10V47
C202 15P
C203 15P
C204 39P
C206 10P
C207 10V10
C208 6.3V22
C209 16V33
C210 50V1
C211 0.1
C212 25V10
C213 0.047
C214 50V1
C215 27P
C216 27P
C217 25V4.7
C218 27P
C219 27P
C220 16V47
C221 27P
C222 27P
C223 6800P
C224 0.047
C225 0.1
C226 35V4.7
C227 10V10
C228 25V10
C229 6.3V47
C230 0.1
C231 0.1
C232 0.1
C233 0.1
C234
C235
C236 15P
C237 0.1
C238 33P
C239 33P
C240 33P
C241 100P
C242 0.1
C243 0.1
C244 0.047
C245 0.1
C246 15P
C247 16V10
C248 0.1
C249 0.1
C250 0.1
C251 33P
C252 0.1
C501 18P
C502 0.047
C503 18P
C504 20V6.8
C506 18P
C507 10V10
R201 330
R202 330
R203 1M
R204 1K
R205 33K
R206 18K
R207 10K
R208 470
R209 47K
R210 18K
R211 4700
R212 33
R213 680
R214 680
R215 27K
R216 10K
R217 100
R218 4700
R219 1K
R220 5600
R221 100
R222 12K
R223 220
R224 220
R225 1K
R226 1K
R227 2700
R228 220
R229 1K
R230 1M
R231 100K
R232 100
R233 100
R234 2700
R235 100K
R236 27
R501 1K
D202 MA141K
D204 MA110
D205 MA110
D207 MA159
D209 MA110
D210 MA141K

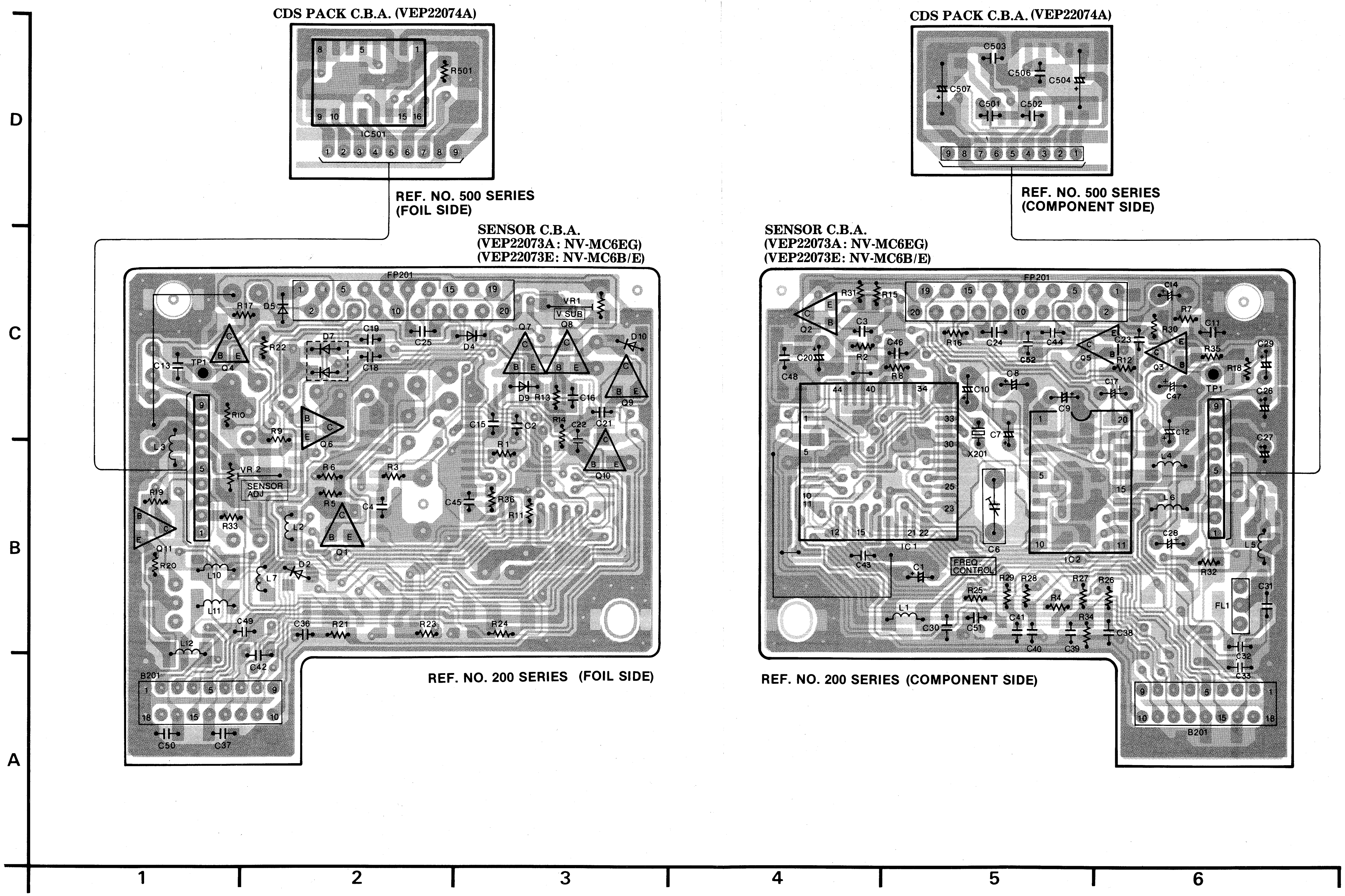
NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

NOTE: THE WAVEFORM OF THIS DIAGRAM MEASURED WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

Back Page:
CAMERA OPERATION Section

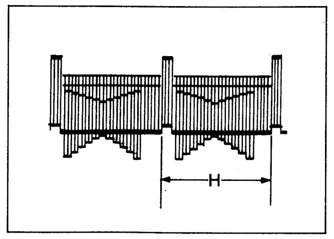
3-6. SENSOR C.B.A. (VEP22073A: NV-MC6EG) (VEP22073E: NV-MC6B/E) & CDS PACK C.B.A. (VEP22074A)


CDS PACK C.B.A. (VEP22074A)
IC501
R501
REF. NO. 500 SERIES
(FOIL SIDE)
CDS PACK C.B.A. (VEP22074A)
C503
C506
C504
C507
C501
C502
REF. NO. 500 SERIES
(COMPONENT SIDE)
SENSOR C.B.A.
(VEP22073A: NV-MC6EG)
(VEP22073E: NV-MC6B/E)
SENSOR C.B.A.
(VEP22073A: NV-MC6EG)
(VEP22073E: NV-MC6B/E)
FP201
VR1
V SUB
SENSOR ADJ
VR 2
TP1
B201
FREQ. CONTROL
IC 1
IC2
X201
FL1
REF. NO. 200 SERIES (FOIL SIDE)
REF. NO. 200 SERIES (COMPONENT SIDE)
D
C
B
A
1
2
3
4
5
6

SENSOR C.B.A. & CDS C.B.A.	
Transistor	
Q201	B-2 Ⓕ
Q202	C-4 Ⓒ
Q203	C-6 Ⓒ
Q204	C-1 Ⓕ
Q205	C-5 Ⓒ
Q206	C-2 Ⓕ
Q207	C-3 Ⓕ
Q208	C-3 Ⓕ
Q209	C-3 Ⓕ
Q210	B-3 Ⓕ
Q211	B-1 Ⓕ
Integrated Circuit	
IC201	B-5 Ⓒ
IC202	B-5 Ⓒ
IC501	D-2 Ⓕ
Test Point	
TP201	C-1 Ⓕ
TP201	C-6 Ⓒ
Adjustment	
C206	B-5 Ⓒ
VR201	C-3 Ⓕ
VR202	B-2 Ⓕ
Connector	
B201	A-1 Ⓕ
B201	A-6 Ⓒ
FP201	C-2 Ⓕ
FP201	C-5 Ⓒ

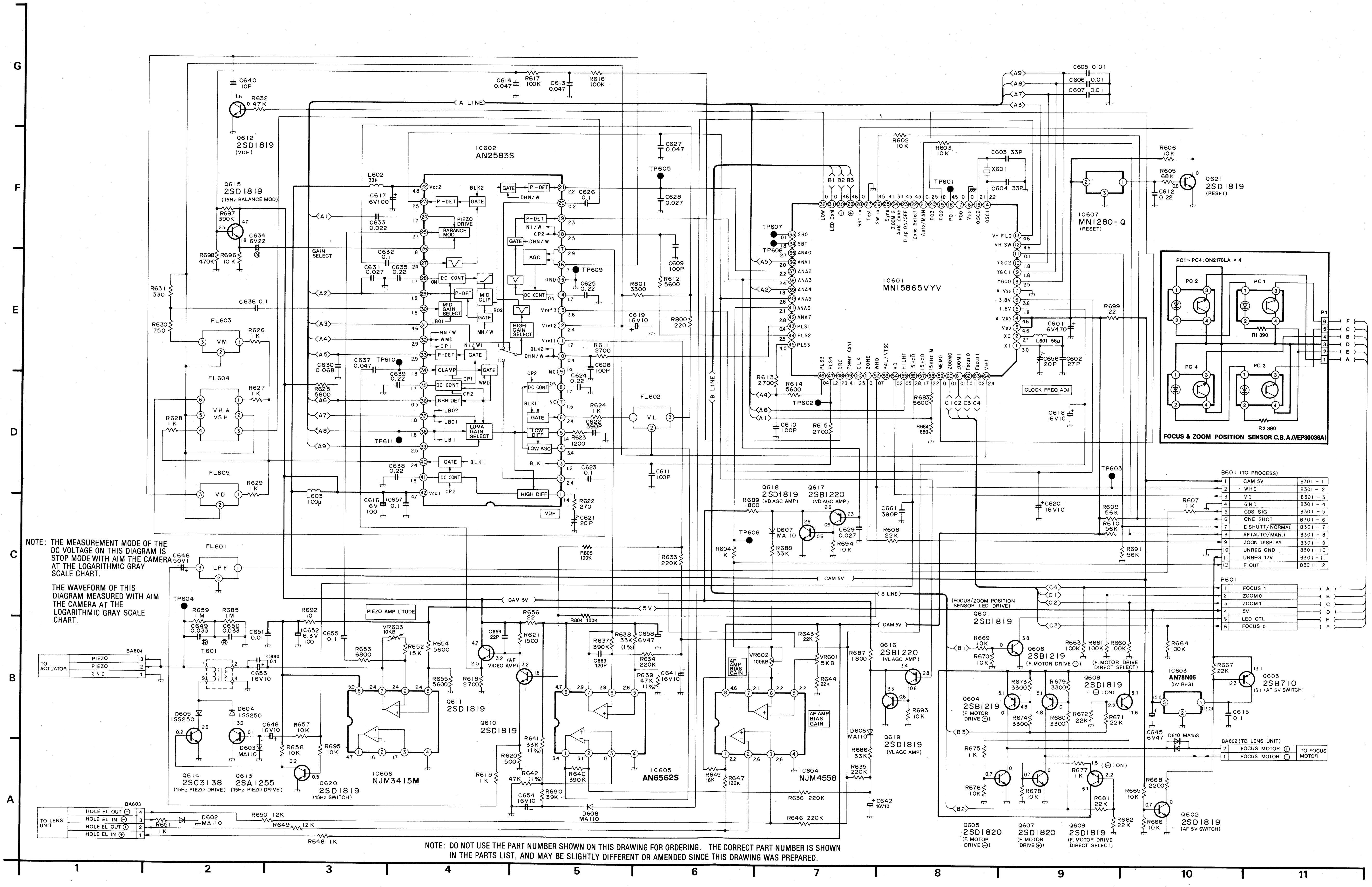
ADDRESS INFORMATION
Ⓒ ··· COMPONENT SIDE
Ⓕ ··· FOIL SIDE

SENSOR CIRCUIT TP (Test Point)
WAVE FORM (REF No. 200 Series)



TP201 STOP
20mV/20μsec. div. 0.6Vp-p

3-7. AUTO FOCUS SCHEMATIC DIAGRAM

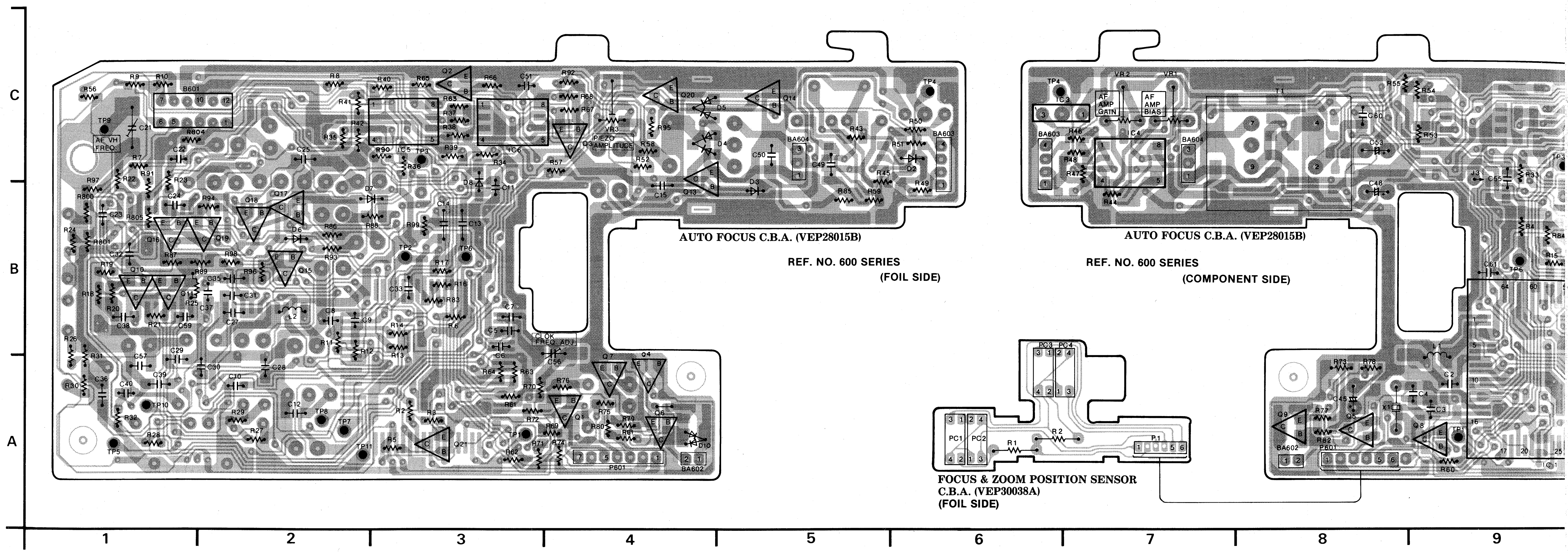

G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
IC602
AN2583S
IC601
MN15865VYV
IC607
MN1280-Q
(RESET)
IC603
AN78N05
(5V REG)
IC604
NJM4558
IC605
AN6562S
IC606
NJM3415M
Q612
2SD1819
(VDF)
Q615
2SD1819
(15Hz BALANCE MOD)
Q614
2SC3138
(15Hz PIEZO DRIVE)
Q613
2SA1255
(15Hz PIEZO DRIVE)
Q620
2SD1819
(15Hz SWITCH)
Q611
2SD1819
Q610
2SD1819
Q618
2SD1819
(VD AGC AMP)
Q617
2SB1220
(VD AGC AMP)
Q616
2SB1220
(VL AGC AMP)
Q619
2SD1819
(VL AGC AMP)
Q601
2SD1819
Q606
2SB1219
(F.MOTOR DRIVE ⊖)
Q604
2SB1219
(F.MOTOR DRIVE ⊕)
Q608
2SD1819
Q605
2SD1820
(F.MOTOR DRIVE ⊖)
Q607
2SD1820
(F.MOTOR DRIVE ⊕)
Q609
2SD1819
(F.MOTOR DRIVE DIRECT SELECT)
Q602
2SD1819
(AF 5V SWITCH)
Q603
2SB710
(AF 5V SWITCH)
Q621
2SD1819
(RESET)
FL601
LPF
FL602
VL
FL603
VM
FL604
VH & VSH
FL605
VD
T601
PIEZO AMP LITUDE
AF AMP BIAS GAIN
CLOCK FREQ ADJ
X601
A LINE
B LINE
CAM 5V
5V
TP601
TP602
TP603
TP604
TP605
TP606
TP607
TP608
TP609
TP610
TP611
BA604
TO ACTUATOR
PIEZO
PIEZO
GND
BA603
TO LENS UNIT
HOLE EL OUT ⊖
HOLE EL IN ⊖
HOLE EL OUT ⊕
HOLE EL IN ⊕
B601 (TO PROCESS)
CAM 5V
WHD
VD
GND
CDS SIG
ONE SHOT
E SHUTT/NORMAL
AF (AUTO/MAN.)
ZOON DISPLAY
UNREG GND
UNREG 12V
F OUT
P601
FOCUS 1
ZOOM 0
ZOOM 1
5V
LED CTL
FOCUS 0
(FOCUS/ZOOM POSITION SENSOR LED DRIVE)
BA602 (TO LENS UNIT)
FOCUS MOTOR ⊕
FOCUS MOTOR ⊖
TO FOCUS MOTOR
PC1~PC4: ON2170LA × 4
PC1
PC2
PC3
PC4
R1 390
R2 390
FOCUS & ZOOM POSITION SENSOR C.B.A.(VEP30038A)

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

THE WAVEFORM OF THIS DIAGRAM MEASURED WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

3-8. AUTO FOCUS C.B.A. (VEP28015B) & FOCUS & ZOOM POSITION SENSOR C.B.A. (VEP30038A)


C
B
A
1
2
3
4
5
6
7
8
9
AF VH FREQ.
PIEZO AMPLITUDE
CLOK FREQ. ADJ
AF AMP GAIN
AF AMP BIAS
B601
P601
BA602
BA603
BA604
IC3
IC4
IC5
IC6
PC1
PC2
PC3
PC4
P1

AUTO FOCUS C.B.A. (VEP28015B)

REF. NO. 600 SERIES

(FOIL SIDE)

AUTO FOCUS C.B.A. (VEP28015B)

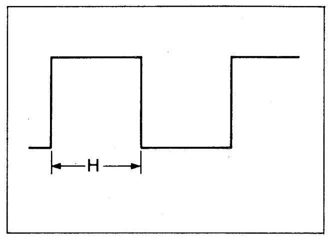
REF. NO. 600 SERIES

(COMPONENT SIDE)

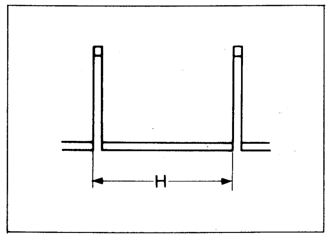
FOCUS & ZOOM POSITION SENSOR C.B.A. (VEP30038A)

(FOIL SIDE)

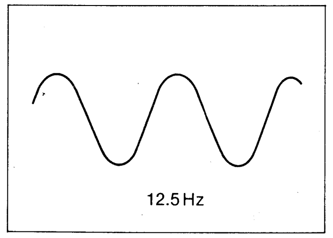
AUTO FOCUS CIRCUIT TP (Test Point)
WAVE FORM(REF No. 600 Series)



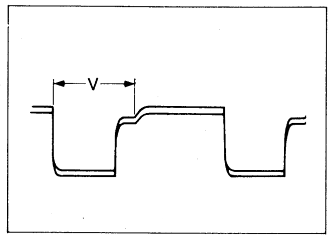
TP602 STOP
2V/20μsec. div. 5Vp-p



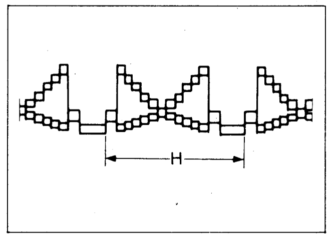
TP603 STOP
2V/20μsec. div. 5Vp-p



TP604 STOP
5V/20μsec. div. 70Vp-p



TP605 STOP
0.5V/5msec. div. 4Vp-p



TP610 STOP
0.1V/20μsec. div. 0.2Vp-p

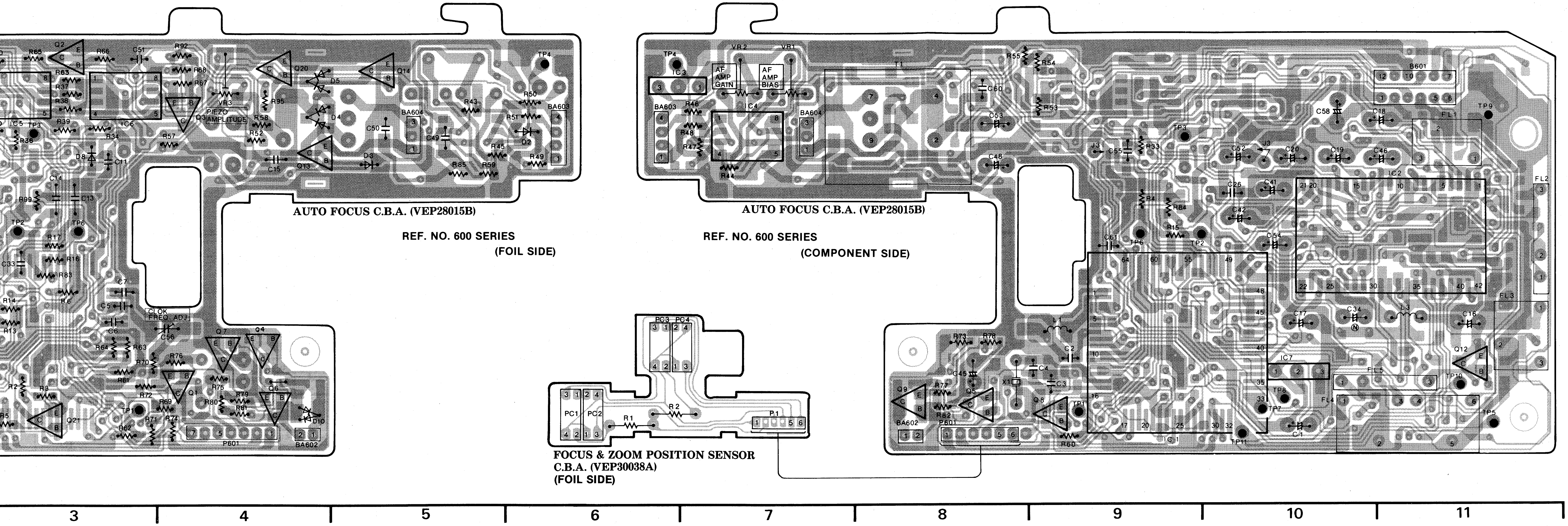
AUTO FC

Transistor		
Q601	A-4	Ⓕ
Q602	C-3	Ⓕ
Q603	C-4	Ⓕ
Q604	A-4	Ⓕ
Q605	A-8	Ⓒ
Q606	A-4	Ⓕ
Q607	A-4	Ⓕ
Q608	A-9	Ⓒ
Q609	A-8	Ⓒ
Q610	B-1	Ⓕ
Q611	B-1	Ⓕ
Q612	A-11	Ⓒ
Q613	C-4	Ⓕ
Q614	C-5	Ⓕ
Q615	B-2	Ⓕ
Q616	B-1	Ⓕ
Q617	B-2	Ⓕ
Q618	B-2	Ⓕ
Q619	B-2	Ⓕ
Q620	C-4	Ⓕ
Q621	A-3	Ⓕ
Integrated Circuit		
IC601	A-9	Ⓒ
IC602	B-11	Ⓒ

IC603
IC604
IC605
IC606
IC607
Test Point
TP601
TP601
TP602
TP602
TP603
TP603
TP604
TP604
TP605
TP605
TP606
TP606
TP607
TP607
TP608
TP608
TP609
TP609
TP610

ADDRESS INFORMATION
Ⓒ ··· COMPONENT SIDE
Ⓕ ··· FOIL SIDE

OCUS & ZOOM POSITION SENSOR C.B.A. (VEP30038A)


TP4
VR2
VR1
IC3
AF AMP GAIN
AF AMP BIAS
T1
BA603
BA604
R46
R48
R47
R44
C4
R55
R54
R53
C60
C53
C48
TP3
J3
C55
R33
C52
J3
C20
C19
C46
C58
C18
B601
TP9
FL1
IC2
FL2
R4
R84
R15
C26
C41
C42
C61
TP6
TP2
C54
IC1
L1
C2
C4
C3
C45
X1
R73
R78
R77
R82
Q9
Q5
Q8
TP1
BA602
P601
R60
C17
C34
L3
C16
FL3
Q12
IC7
FL5
TP8
TP7
TP10
FL4
TP5
TP11
C1
Q2
Q20
Q14
Q3
Q13
D5
D4
D3
R65
R66
C51
R92
R68
R67
R63
R37
R38
R39
R34
IC5
IC6
TP3
R36
R57
R52
R58
R95
VR3
PIEZO AMPLITUDE
C15
C50
C49
R43
R50
R51
R45
R49
R85
R59
D8
C11
C14
C13
R99
TP2
TP6
R17
R16
R83
C33
R14
R6
R13
C7
C5
C6
CLOK FREQ. ADJ.
C56
R64
R63
R70
R61
R72
R76
R75
R79
R69
R80
R81
R71
R74
R62
TP1
Q7
Q4
Q1
Q6
Q21
D10
R2
R8
P601
BA602
PC3
PC4
PC1
PC2
R1
R2
P1
3
4
5
6
7
8
9
10
11

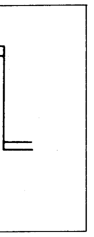
AUTO FOCUS C.B.A. (VEP28015B)

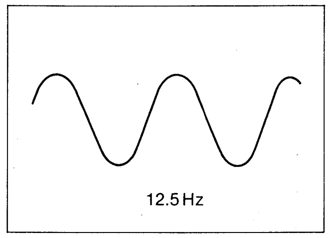
REF. NO. 600 SERIES
(FOIL SIDE)

AUTO FOCUS C.B.A. (VEP28015B)

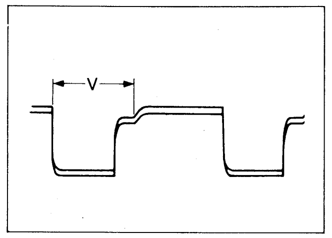
REF. NO. 600 SERIES
(COMPONENT SIDE)

FOCUS & ZOOM POSITION SENSOR
C.B.A. (VEP30038A)
(FOIL SIDE)

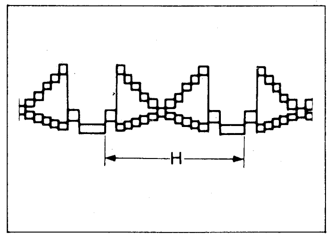




TP604 STOP
5V/20μsec. div. 70Vp-p



TP605 STOP
0.5V/5msec. div. 4Vp-p



TP610 STOP
0.1V/20μsec. div. 0.2Vp-p

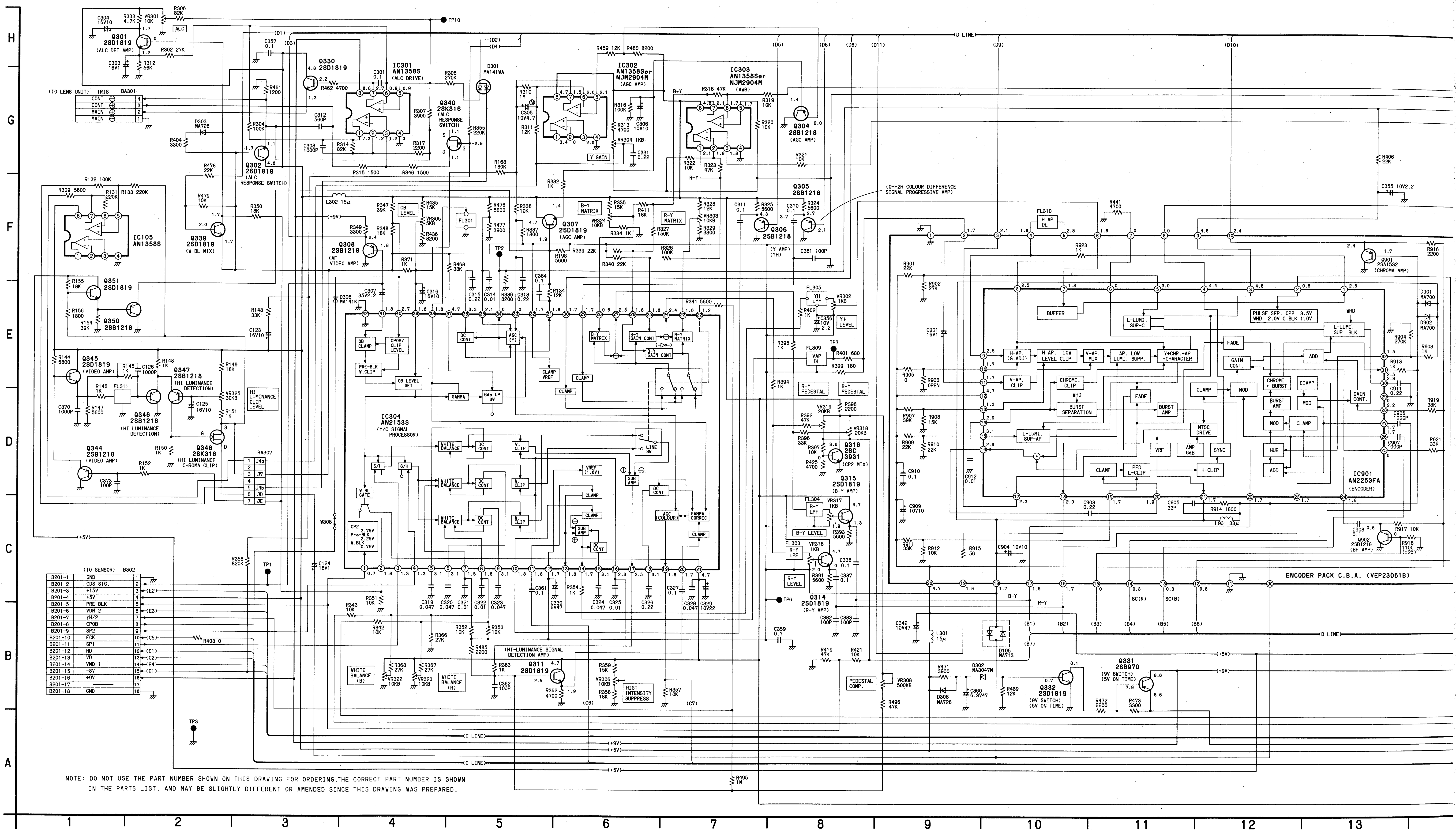
AUTO FOCUS C.B.A.

Ref.	Address	Side
Transistor		
Q601	A-4	Ⓕ
Q602	C-3	Ⓕ
Q603	C-4	Ⓕ
Q604	A-4	Ⓕ
Q605	A-8	Ⓒ
Q606	A-4	Ⓕ
Q607	A-4	Ⓕ
Q608	A-9	Ⓒ
Q609	A-8	Ⓒ
Q610	B-1	Ⓕ
Q611	B-1	Ⓕ
Q612	A-11	Ⓒ
Q613	C-4	Ⓕ
Q614	C-5	Ⓕ
Q615	B-2	Ⓕ
Q616	B-1	Ⓕ
Q617	B-2	Ⓕ
Q618	B-2	Ⓕ
Q619	B-2	Ⓕ
Q620	C-4	Ⓕ
Q621	A-3	Ⓕ
Integrated Circuit		
IC601	A-9	Ⓒ
IC602	B-11	Ⓒ
IC603	C-6	Ⓒ
IC604	C-7	Ⓒ
IC605	C-3	Ⓕ
IC606	C-3	Ⓕ
IC607	A-10	Ⓒ
Test Point		
TP601	A-3	Ⓕ
TP601	A-9	Ⓒ
TP602	B-3	Ⓕ
TP602	B-9	Ⓒ
TP603	C-3	Ⓕ
TP603	C-9	Ⓒ
TP604	C-6	Ⓕ
TP604	C-6	Ⓒ
TP605	A-1	Ⓕ
TP605	A-11	Ⓒ
TP606	B-3	Ⓕ
TP606	B-9	Ⓒ
TP607	A-2	Ⓕ
TP607	A-10	Ⓒ
TP608	A-2	Ⓕ
TP608	A-10	Ⓒ
TP609	C-1	Ⓕ
TP609	C-11	Ⓒ
TP610	A-1	Ⓕ
TP610	A-11	Ⓒ
TP611	A-2	Ⓕ
TP611	A-10	Ⓒ
Adjustment		
C621	C-1	Ⓕ
C656	A-4	Ⓕ
VR601	C-7	Ⓒ
VR602	C-7	Ⓒ
VR603	C-4	Ⓕ
Connector		
B601	C-1	Ⓕ
B601	C-11	Ⓒ
BA602	A-4	Ⓕ
BA602	A-8	Ⓒ
BA603	C-6	Ⓕ
BA603	C-6	Ⓒ
BA604	C-5	Ⓕ
BA604	C-7	Ⓒ
P601	A-4	Ⓕ
P601	A-8	Ⓒ

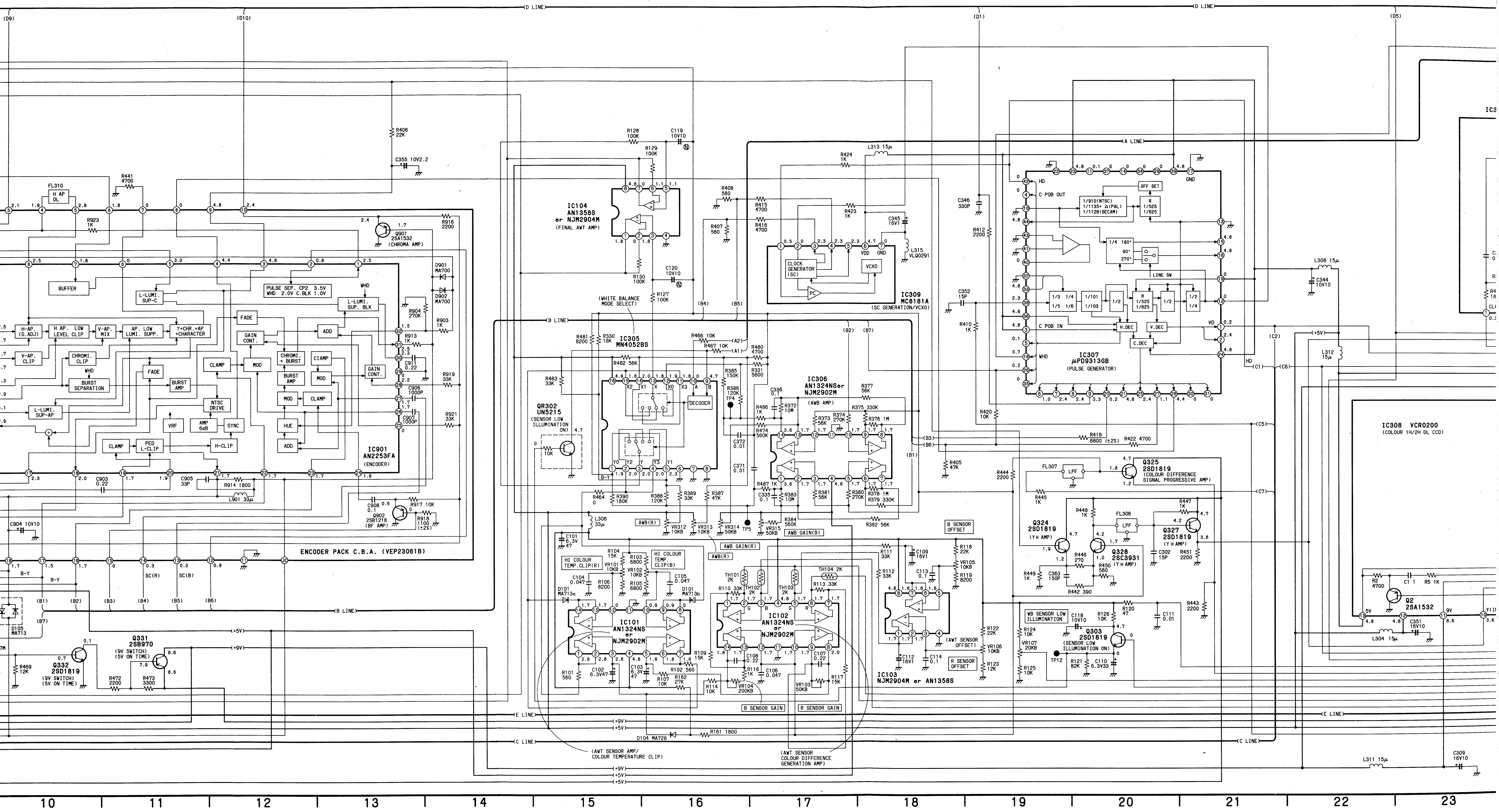
ADDRESS INFORMATION
Ⓒ ··· COMPONENT SIDE
Ⓕ ··· FOIL SIDE

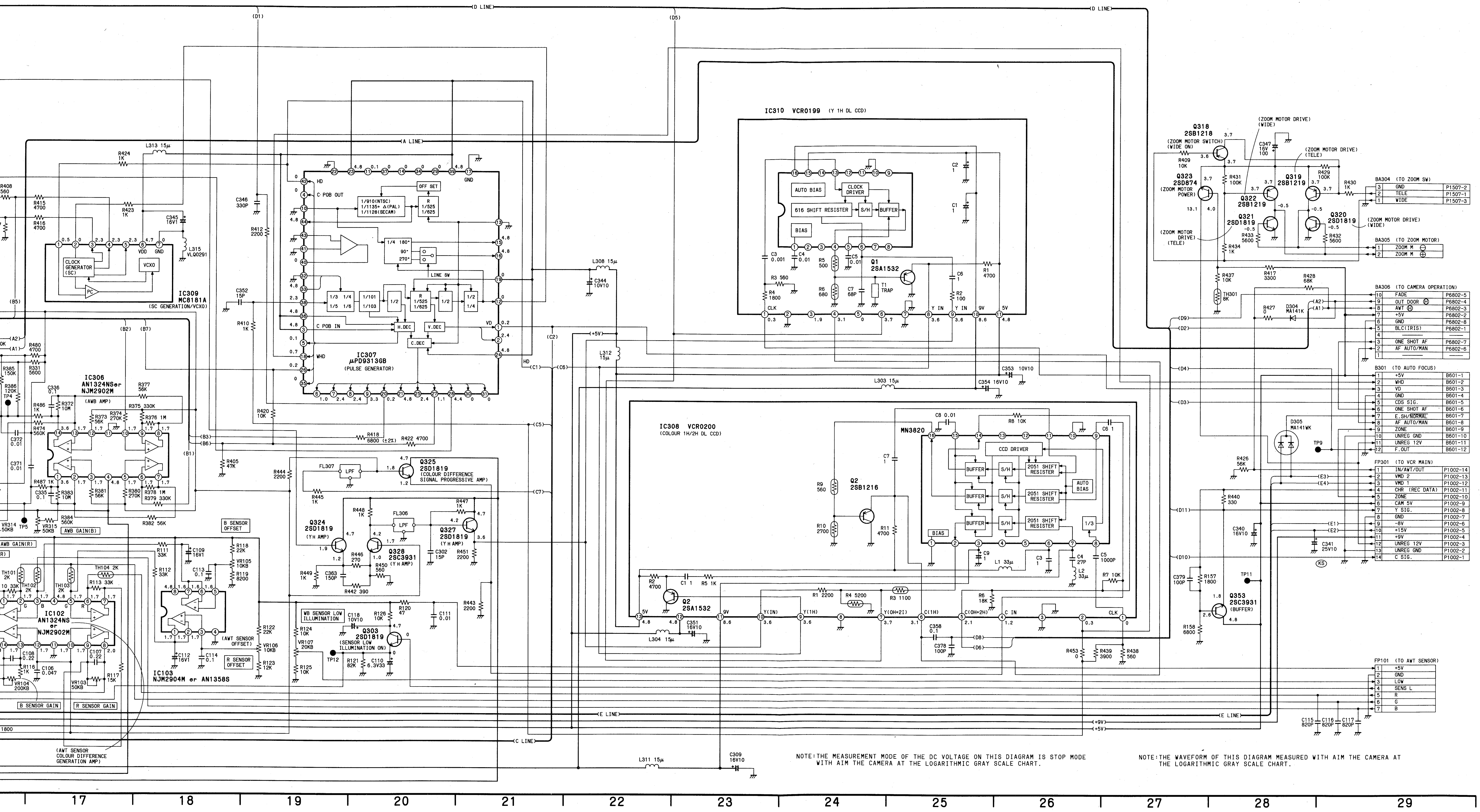
Next Page:
PROCESS & ENCODER PACK Section

3-9. PROCESS & ENCODER SCHEMATIC DIAGRAM


H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
13
TP10
TP1
TP2
TP3
TP6
TP7
(D LINE)
(B LINE)
(E LINE)
(C LINE)
(+5V)
(+9V)
(TO LENS UNIT) IRIS BA301
CONT ⊖
CONT ⊕
MAIN ⊕
MAIN ⊖
Q301 2SD1819 (ALC DET AMP)
ALC
Q330 2SD1819
IC301 AN1358S (ALC DRIVE)
Q340 2SK316 (ALC RESPONSE SWITCH)
D301 MA141WA
Q302 2SD1819 (ALC RESPONSE SWITCH)
D303 MA728
IC302 AN1358Sor NJM2904M (AGC AMP)
Y GAIN
IC303 AN1358Sor NJM2904M (AWB)
Q304 2SB1218 (AGC AMP)
Q305 2SB1218
(OH+2H COLOUR DIFFERENCE SIGNAL PROGRESSIVE AMP)
Q306 2SB1218 (Y AMP) (1H)
IC105 AN1358S
Q339 2SD1819 (W BL MIX)
Q308 2SB1218 (AF VIDEO AMP)
Q307 2SD1819 (AGC AMP)
CB LEVEL
FL301
B-Y MATRIX
R-Y MATRIX
D306 MA141K
Q351 2SD1819
Q350 2SB1218
Q345 2SD1819 (VIDEO AMP)
FL311
Q347 2SB1218 (HI LUMINANCE DETECTION)
Q346 2SB1218 (HI LUMINANCE DETECTION)
HI LUMINANCE CLIP LEVEL
Q344 2SB1218 (VIDEO AMP)
Q348 2SK316 (HI LUMINANCE CHROMA CLIP)
BA307
IC304 AN2153S (Y/C SIGNAL PROCESSOR)
OB CLAMP
CPOB/ CLIP LEVEL
PRE-BLK W.CLIP
OB LEVEL SET
GAMMA
6db UP SW
DC CONT
AGC (Y)
CLAMP VREF
B-Y GAIN CONT
R-Y MATRIX
WHITE BALANCE
W. CLIP
VREF (1.8V)
SUB AMP
LINE SW
AGC (COLOUR)
GAMMA CORREC
W.BL GATE
CP2 3.75V Pre-BLK 2.25V W.BLK 0.75V
S/H
W308
FL305 YH LPF
YH LEVEL
FL309 VAP DL
R-Y PEDESTAL
B-Y PEDESTAL
Q316 2SC3931 (CP2 MIX)
Q315 2SD1819 (B-Y AMP)
FL304 B-Y LPF
B-Y LEVEL
FL303 R-Y LPF
R-Y LEVEL
Q314 2SD1819 (R-Y AMP)
PEDESTAL COMP.
WHITE BALANCE (B)
WHITE BALANCE (R)
(HI-LUMINANCE SIGNAL DETECTION AMP)
Q311 2SD1819
HIGT LUMINANCE SUPPRESS
L301 15μ
D105 MA713
D302 MA3047M
D308 MA728
Q332 2SD1819 (9V SWITCH) (5V ON TIME)
Q331 2SB970 (9V SWITCH) (5V ON TIME)
FL310 H AP DL
Q901 2SA1532 (CHROMA AMP)
BUFFER
L-LUMI. SUP-C
PULSE SEP. CP2 3.5V WHD 2.0V C.BLK 1.0V
WHD
L-LUMI. SUP. BLK
H-AP. (G.ADJ)
H AP. LOW LEVEL CLIP
V-AP. MIX
AP. LOW LUMI. SUPP.
Y+CHR.+AP +CHARACTER
FADE
GAIN CONT.
ADD
V-AP. CLIP
CHROMI. CLIP
CLAMP
MOD
CHROMI. + BURST
BURST AMP
BURST SEPARATION
NTSC DRIVE
L-LUMI. SUP-AP
VRF
AMP 6dB
SYNC
HUE
PED L-CLIP
H-CLIP
IC901 AN2253FA (ENCODER)
D901 MA700
D902 MA700
L901 33μ
Q902 2SB1218 (BF AMP)
ENCODER PACK C.B.A. (VEP23061B)
(TO SENSOR) B302
B201-1 GND 1
B201-2 CDS SIG. 2
B201-3 +15V 3 (E2)
B201-4 +5V 4
B201-5 PRE BLK 5
B201-6 VDM 2 6 (E3)
B201-7 ƒH/2 7
B201-8 CPOB 8
B201-9 SP2 9
B201-10 FCK 10 (C5)
B201-11 SP1 11
B201-12 HD 12 (C1)
B201-13 VD 13 (C2)
B201-14 VMD 1 14 (E4)
B201-15 -8V 15 (E1)
B201-16 +9V 16
B201-17 17
B201-18 GND 18

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING.THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST. AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.


D LINE
A LINE
B LINE
C LINE
E LINE
ENCODER PACK C.B.A. (VEP23061B)
IC901
AN2253FA
(ENCODER)
Q901
2SA1532
(CHROMA AMP)
Q902
2SB1218
(BF AMP)
Q331
2SB970
(9V SWITCH)
(5V ON TIME)
Q332
2SD1819
(9V SWITCH)
(5V ON TIME)
IC104
AN1358S
or NJM2904M
(FINAL AWT AMP)
IC305
MN4052BS
(WHITE BALANCE MODE SELECT)
QR302
UN5215
(SENSOR LOW ILLUMINATION ON)
IC306
AN1324NSor
NJM2902M
(AWB AMP)
IC309
MC8181A
(SC GENERATION/VCXO)
IC307
μPD9313GB
(PULSE GENERATOR)
IC308 VCR0200
(COLOUR 1H/2H DL CCD)
IC101
AN1324NS
or
NJM2902M
(AWT SENSOR AMP/
COLOUR TEMPERATURE CLIP)
IC102
AN1324NS
or
NJM2902M
(AWT SENSOR
COLOUR DIFFERENCE
GENERATION AMP)
IC103
NJM2904M or AN1358S
(AWT SENSOR OFFSET)
Q325
2SD1819
(COLOUR DIFFERENCE SIGNAL PROGRESSIVE AMP)
Q324
2SD1819
(Y H AMP)
Q327
2SD1819
(Y H AMP)
Q328
2SC3931
(Y H AMP)
Q303
2SD1819
(SENSOR LOW ILLUMINATION ON)
Q2
2SA1532
WB SENSOR LOW ILLUMINATION
HI COLOUR TEMP.CLIP(R)
HI COLOUR TEMP CLIP(B)
AWB(B)
AWB(R)
AWB GAIN(R)
AWB GAIN(B)
B SENSOR GAIN
R SENSOR GAIN
B SENSOR OFFSET
R SENSOR OFFSET
BUFFER
H AP DL
H-AP. (G.ADJ)
H AP. LOW LEVEL CLIP
V-AP. MIX
AP. LOW LUMI. SUPP.
Y+CHR.+AP +CHARACTER
V-AP. CLIP
CHROMI. CLIP
BURST SEPARATION
BURST AMP
L-LUMI. SUP-AP
L-LUMI. SUP-C
PULSE SEP. CP2 3.5V WHD 2.0V C.BLK 1.0V
L-LUMI. SUP. BLK
FADE
GAIN CONT.
MOD
CHROMI. + BURST
CLAMP
ADD
HUE
NTSC DRIVE
AMP 6dB
SYNC
VRF
PED L-CLIP
H-CLIP
DECODER
CLOCK GENERATOR (SC)
VCXO
PC
C POB OUT
C POB IN
OFF SET
1/910(NTSC) 1/1135+ Δ(PAL) 1/1128(SECAM)
H.DEC
V.DEC
C.DEC
LINE SW
LPF
FL307
FL306
FL310
(+5V)
(+9V)
D104 MA728
R161 1800
L313 15μ
L308 15μ
L311 15μ
L304 15μ
10
11
12
13
14
15
16
17
18
19
20
21
22
23

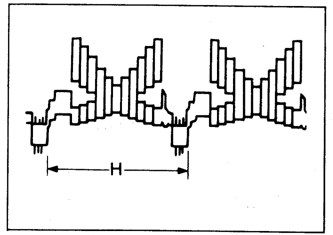

D LINE
A LINE
E LINE
C LINE
IC309 MC8181A (SC GENERATION/VCXO)
CLOCK GENERATOR (SC)
VCXO
PC
L313 15μ
L315 VLQ0291
IC307 μPD9313GB (PULSE GENERATOR)
C POB OUT
C POB IN
HD
WHD
VD
GND
OFF SET
1/910(NTSC) 1/1135+ Δ(PAL) 1/1128(SECAM)
R 1/525 1/625
1/4 180° 90° 270°
LINE SW
H.DEC
V.DEC
C.DEC
IC306 AN1324NSor NJM2902M (AWB AMP)
AWB GAIN(B)
AWB GAIN(R)
IC102 AN1324NS or NJM2902M
IC103 NJM2904M or AN1358S
B SENSOR OFFSET
R SENSOR OFFSET
B SENSOR GAIN
R SENSOR GAIN
(AWT SENSOR COLOUR DIFFERENCE GENERATION AMP)
(AWT SENSOR OFFSET)
WB SENSOR LOW ILLUMINATION
Q303 2SD1819 (SENSOR LOW ILLUMINATION ON)
Q325 2SD1819 (COLOUR DIFFERENCE SIGNAL PROGRESSIVE AMP)
Q324 2SD1819 (YH AMP)
Q328 2SC3931 (YH AMP)
Q327 2SD1819 (YH AMP)
FL307 LPF
FL306 LPF
L308 15μ
L312 15μ
L303 15μ
L304 15μ
L311 15μ
IC310 VCR0199 (Y 1H DL CCD)
AUTO BIAS
CLOCK DRIVER
616 SHIFT RESISTER
S/H
BUFFER
BIAS
Q1 2SA1532
T1 TRAP
CLK
Y IN
9V
5V
IC308 VCR0200 (COLOUR 1H/2H DL CCD)
MN3820
CCD DRIVER
2051 SHIFT RESISTER
AUTO BIAS
1/3
Q2 2SB1216
Q2 2SA1532
Y(IN)
Y(1H)
Y(OH+2I)
C(1H)
C(OH+2H)
C IN
Q353 2SC3931 (BUFFER)
TP11
TP9
D305 MA141WK
Q318 2SB1218 (ZOOM MOTOR SWITCH) (WIDE ON)
Q323 2SD874 (ZOOM MOTOR POWER)
Q319 2SB1219
Q322 2SB1219
Q321 2SD1819
Q320 2SD1819
(ZOOM MOTOR DRIVE) (WIDE)
(ZOOM MOTOR DRIVE) (TELE)
(ZOOM MOTOR DRIVE) (TELE)
(ZOOM MOTOR DRIVE) (WIDE)
TH301 8K
D304 MA141K
BA304 (TO ZOOM SW)
3 GND P1507-2
2 TELE P1507-1
1 WIDE P1507-3
BA305 (TO ZOOM MOTOR)
1 ZOOM M ⊖
2 ZOOM M ⊕
BA306 (TO CAMERA OPERATION)
10 FADE P6802-5
9 OUT DOOR P6802-4
8 AWT P6802-3
7 +5V P6802-2
6 GND P6802-8
5 BLC(IRIS) P6802-1
4
3 ONE SHOT AF P6802-7
2 AF AUTO/MAN P6802-6
B301 (TO AUTO FOCUS)
1 +5V B601-1
2 WHD B601-2
3 VD B601-3
4 GND B601-4
5 CDS SIG. B601-5
6 ONE SHOT AF B601-6
7 E.SH/NORMAL B601-7
8 AF AUTO/MAN B601-8
9 ZONE B601-9
10 UNREG GND B601-10
11 UNREG 12V B601-11
12 F.OUT B601-12
FP301 (TO VCR MAIN)
1 IN/AWT/OUT P1002-14
2 VMD 2 P1002-13
3 VMD 1 P1002-12
4 CHR (REC DATA) P1002-11
5 ZONE P1002-10
6 CAM 5V P1002-9
7 Y SIG. P1002-8
8 GND P1002-7
9 -8V P1002-6
10 +15V P1002-5
11 +9V P1002-4
12 UNREG 12V P1002-3
13 UNREG GND P1002-2
14 C SIG. P1002-1
FP101 (TO AWT SENSOR)
1 +5V
2 GND
3 LOW
4 SENS L
5 R
6 G
7 B
17
18
19
20
21
22
23
24
25
26
27
28
29

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

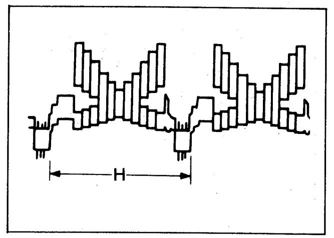
NOTE: THE WAVEFORM OF THIS DIAGRAM MEASURED WITH AIM THE CAMERA AT THE LOGARITHMIC GRAY SCALE CHART.

3-10. PROCESS C.B.A. (VEP23064B: NV-MC6EG) (VEP23064D: NV-MC6B/E) & ENCODER PACK C.B.A. (VEP23061B)

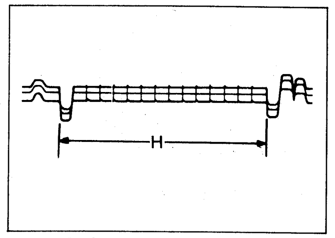
PROCESS MAIN CIRCUIT TP (Test Point) WAVE FORM (REF No. 300 Series)



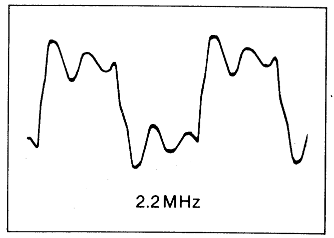
TP301 STOP
0.1V/20µsec. div. 0.35Vp-p



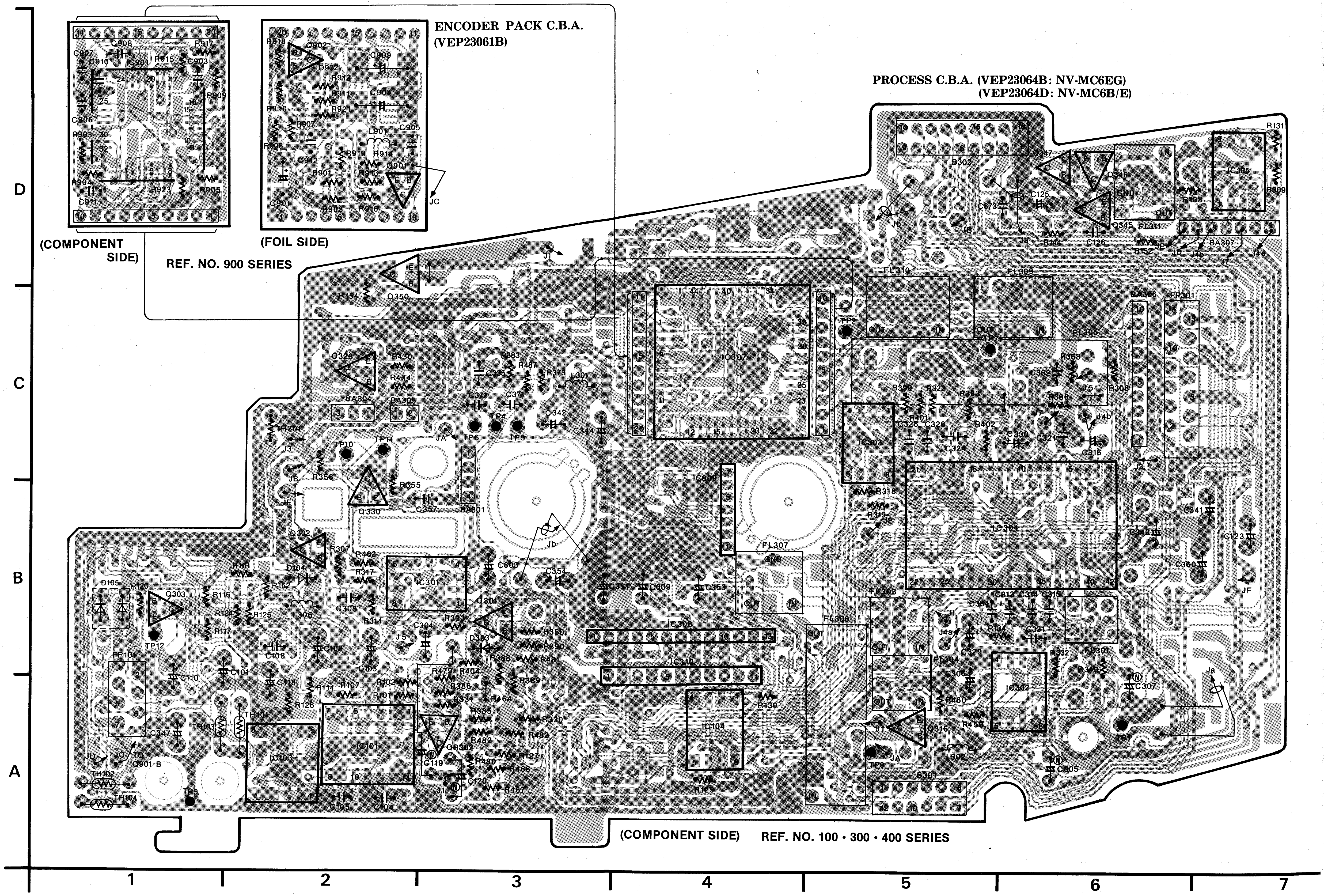
TP302 STOP
0.1V/20µsec. div. 0.3Vp-p



TP307 STOP
50mV/20µsec. div. 50mVp-p

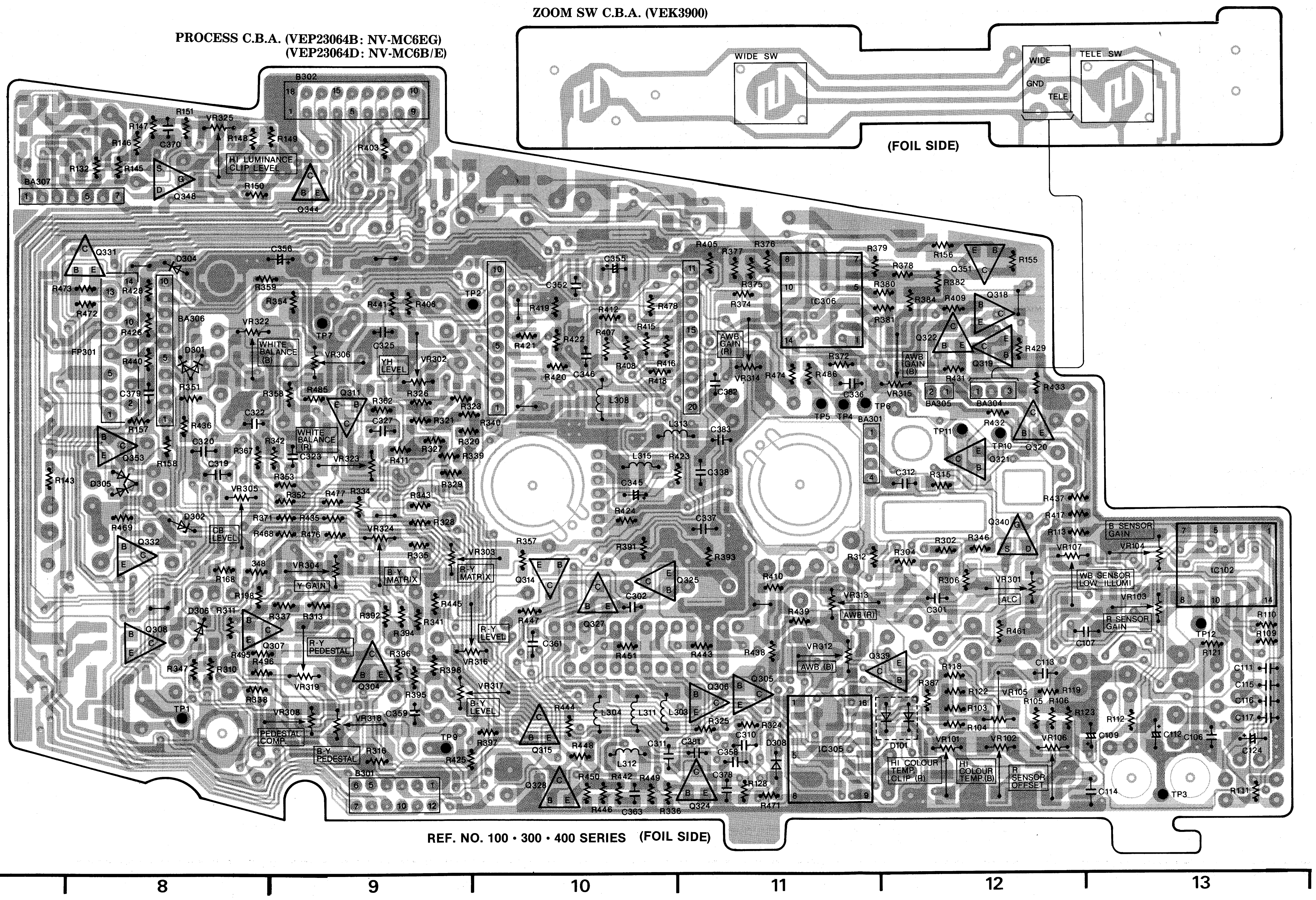


TP308 STOP
0.2V/50µsec. div. 8Vp-p


ENCODER PACK C.B.A.
(VEP23061B)
(COMPONENT SIDE)
(FOIL SIDE)
REF. NO. 900 SERIES
PROCESS C.B.A. (VEP23064B: NV-MC6EG)
(VEP23064D: NV-MC6B/E)
(COMPONENT SIDE)
REF. NO. 100 · 300 · 400 SERIES
D
C
B
A
1
2
3
4
5
6
7
C907
C908
C910
IC901
R915
R917
C903
R909
C906
R903
R904
C911
R923
R905
R918
Q902
D902
C909
R912
R910
R911
R921
C904
R907
L901
C905
R908
C912
R919
R914
Q901
R901
R913
C901
R902
R916
JC
Q350
R154
J1
B302
Q347
Q346
Q345
IC105
R131
R309
C125
C373
R133
R144
C126
R152
FL311
BA307
J4a
J7
J4b
JD
JE
Jb
JB
Ja
FL310
FL309
IC307
TP2
TP7
FL305
BA306
FP301
Q323
R430
R434
BA304
BA305
R383
R487
C335
R373
L301
C372
C371
C342
C344
TP4
TP6
TP5
JA
TH301
J3
TP10
TP11
R356
R355
C357
BA301
Q330
IC309
R368
C362
R308
R399
R322
R363
R401
R366
C328
C326
R402
C330
C321
C316
C324
IC303
R318
R319
IC304
C341
C340
C123
C360
JF
Q302
R307
R462
R317
D104
R161
R162
IC301
C303
C354
C351
C309
C353
FL307
D105
R120
Q303
R116
R124
R125
L306
C308
R314
R117
TP12
Q301
C304
R333
R350
R390
R481
D303
R388
C108
C102
C103
FP101
C110
C101
C118
R114
R107
R102
R101
R126
R479
R404
R386
R331
R464
R389
IC308
IC310
R130
IC104
FL306
FL303
C384
C313
C314
C315
R134
C331
C329
FL304
C306
R460
R459
Q316
L302
IC302
R332
FL301
R349
C307
TP1
TP9
C305
B301
TH103
TH101
IC103
IC101
Q302
R355
R330
R482
R483
R480
R127
R466
R467
C119
C120
R129
C347
TO Q901-B
JD
JC
TH102
TH104
TP3
C105
C104
IN
OUT
GND

ZOOM SW C.B.A. (VEK3900)

PROCESS C.B.A. (VEP23064B: NV-MC6EG)
(VEP23064D: NV-MC6B/E)


WIDE SW
WIDE
GND
TELE
TELE SW
(FOIL SIDE)
B302
HI LUMINANCE CLIP LEVEL
WHITE BALANCE (B)
WHITE BALANCE (R)
YH LEVEL
CB LEVEL
Y GAIN
B-Y MATRIX
R-Y MATRIX
R-Y LEVEL
R-Y PEDESTAL
B-Y LEVEL
B-Y PEDESTAL
PEDESTAL COMP
AWB GAIN (R)
AWB GAIN (B)
AWB (R)
AWB (B)
ALC
IC306
IC305
IC102
B SENSOR GAIN
WB SENSOR LOW ILLUMI
R SENSOR GAIN
HI COLOUR TEMP. CLIP (B)
HI COLOUR TEMP (B)
R SENSOR OFFSET
BA301
BA304
BA305
BA306
BA307
FP301
B301
TP1
TP2
TP3
TP4
TP5
TP6
TP7
TP9
TP10
TP11
TP12
8
9
10
11
12
13

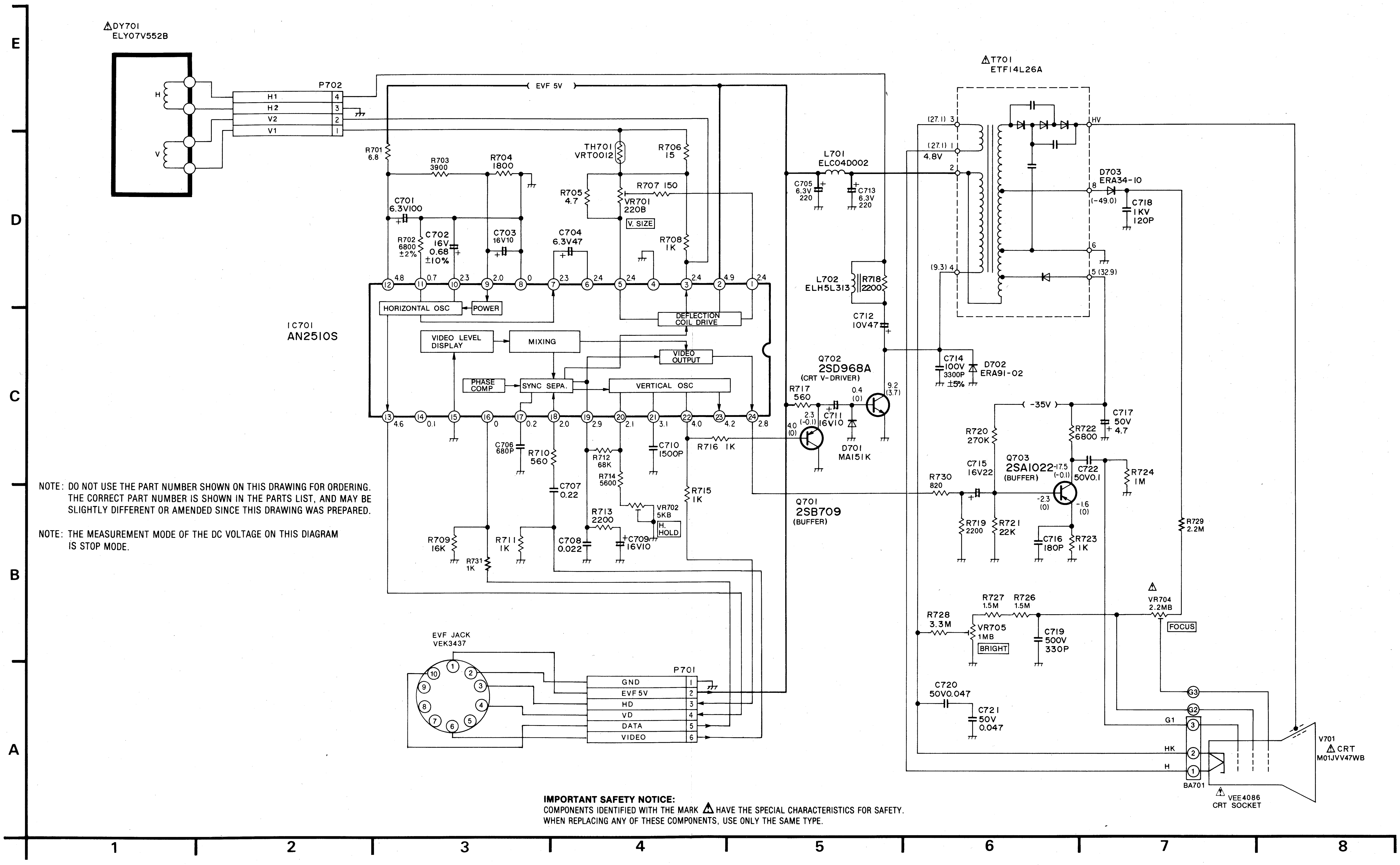
REF. NO. 100 · 300 · 400 SERIES (FOIL SIDE)

PROCESS & ENCODER PACK C.B.A.

Transistor	
Q301	B-3 ©
Q302	B-2 ©
Q303	B-1 ©
Q304	A-9 Ⓕ
Q305	A-11 Ⓕ
Q306	A-11 Ⓕ
Q307	B-9 Ⓕ
Q308	B-8 Ⓕ
Q311	C-9 Ⓕ
Q314	B-10 Ⓕ
Q315	A-10 Ⓕ
Q316	A-5 ©
Q318	C-12 Ⓕ
Q319	C-12 Ⓕ
Q320	C-12 Ⓕ
Q321	C-12 Ⓕ
Q322	C-12 Ⓕ
Q323	C-2 ©
Q324	A-11 Ⓕ
Q325	B-11 Ⓕ
Q327	B-10 Ⓕ
Q328	A-10 Ⓕ
Q330	B-2 ©
Q331	D-8 Ⓕ
Q332	B-8 Ⓕ
Q339	B-12 Ⓕ
Q340	B-12 Ⓕ
Q344	D-9 Ⓕ
Q345	D-6 ©
Q346	D-6 ©
Q347	D-6 ©
Q348	D-8 Ⓕ
Q350	D-2 ©
Q351	C-12 Ⓕ
Q353	C-8 Ⓕ
Q901	D-2 Ⓕ
Q902	D-2 Ⓕ
Transistor & Resistor	
QR302	A-3 ©
Integrated Circuit	
IC101	A-2 ©
IC102	B-13 Ⓕ
IC103	A-2 ©
IC104	A-4 ©
IC105	D-7 ©
IC301	B-3 ©
IC302	A-6 ©
IC303	C-5 ©
IC304	B-6 ©
IC305	A-11 Ⓕ
IC306	C-11 Ⓕ
IC307	C-4 ©
IC308	B-4 ©
IC309	C-4 ©
IC310	B-4 ©
IC901	D-1 ©
Test Point	
TP1	A-6 ©
TP1	A-8 Ⓕ
TP2	C-5 ©
TP2	C-10 Ⓕ
TP3	A-1 ©
TP3	A-13 Ⓕ
TP4	C-3 ©
TP4	C-11 Ⓕ
TP5	C-3 ©
TP5	C-11 Ⓕ
TP6	C-3 ©
TP6	C-11 Ⓕ
TP7	C-5 ©
TP7	C-9 Ⓕ
TP9	A-5 ©
TP9	A-9 Ⓕ
TP10	C-2 ©
TP10	C-12 Ⓕ
TP11	C-2 ©
TP11	C-12 Ⓕ
TP12	B-1 ©
TP12	B-13 Ⓕ
Adjustment	
VR101	A-12 Ⓕ
VR102	A-12 Ⓕ
VR103	B-13 Ⓕ
VR104	B-13 Ⓕ
VR105	A-12 Ⓕ
VR106	A-12 Ⓕ
VR107	B-12 Ⓕ
VR301	B-12 Ⓕ
VR302	C-9 Ⓕ
VR303	B-10 Ⓕ
VR304	B-9 Ⓕ
VR305	B-8 Ⓕ
VR306	C-9 Ⓕ
VR308	A-9 Ⓕ
VR312	B-11 Ⓕ
VR313	B-11 Ⓕ
VR314	C-11 Ⓕ
VR315	C-12 Ⓕ
VR316	B-9 Ⓕ
VR317	A-10 Ⓕ
VR318	A-9 Ⓕ
VR319	A-9 Ⓕ
VR322	C-8 Ⓕ
VR323	C-9 Ⓕ
VR324	B-9 Ⓕ
VR325	D-8 Ⓕ
Connector	
B301	A-5 ©
B301	A-9 Ⓕ
B302	D-5 ©
B302	D-9 Ⓕ
BA301	B-3 ©
BA301	C-11 Ⓕ
BA304	C-2 ©
BA304	C-12 Ⓕ
BA305	C-2 ©
BA305	C-12 Ⓕ
BA306	C-6 ©
BA306	C-8 Ⓕ
BA307	D-7 ©
BA307	D-7 Ⓕ
FP301	C-6 ©
FP301	C-8 Ⓕ

ADDRESS INFORMATION
© ··· COMPONENT SIDE
Ⓕ ··· FOIL SIDE

3-11. E.V.F. SCHEMATIC DIAGRAM



△DY701
ELY07V552B
H
V
P702
H1
H2
V2
V1
EVF 5V
R701 6.8
R703 3900
R704 1800
C701 6.3V100
R702 6800 ±2%
C702 16V 0.68 ±10%
C703 16V10
C704 6.3V47
TH701 VRT0012
R705 4.7
R706 15
R707 150
VR701 220B
V. SIZE
R708 1K
IC701
AN2510S
HORIZONTAL OSC
POWER
DEFLECTION COIL DRIVE
VIDEO LEVEL DISPLAY
MIXING
VIDEO OUTPUT
PHASE COMP
SYNC SEPA.
VERTICAL OSC
C706 680P
R710 560
C707 0.22
R712 68K
R714 5600
VR702 5KB
H. HOLD
R713 2200
C708 0.022
C709 16V10
C710 1500P
R715 1K
R716 1K
R709 16K
R711 1K
R731 1K
EVF JACK
VEK3437
P701
GND
EVF 5V
HD
VD
DATA
VIDEO
L701
ELC04D002
C705 6.3V 220
C713 6.3V 220
L702
ELH5L313
R718 2200
C712 10V47
Q702
2SD968A
(CRT V-DRIVER)
R717 560
C711 16V10
D701
MA151K
Q701
2SB709
(BUFFER)
△T701
ETF14L26A
HV
D703
ERA34-10
C718 1KV 120P
C714 100V 3300P ±5%
D702
ERA91-02
-35V
C717 50V 4.7
R720 270K
R722 6800
C715 16V22
Q703
2SA1022
(BUFFER)
C722 50V0.1
R724 1M
R730 820
R719 2200
R721 22K
C716 180P
R723 1K
R729 2.2M
R727 1.5M
R726 1.5M
R728 3.3M
VR705 1MB
BRIGHT
C719 500V 330P
△VR704 2.2MB
FOCUS
C720 50V0.047
C721 50V 0.047
G3
G2
G1
HK
H
BA701
△VEE4086
CRT SOCKET
V701
△CRT
M01JVV47WB
E
D
C
B
A
1
2
3
4
5
6
7
8

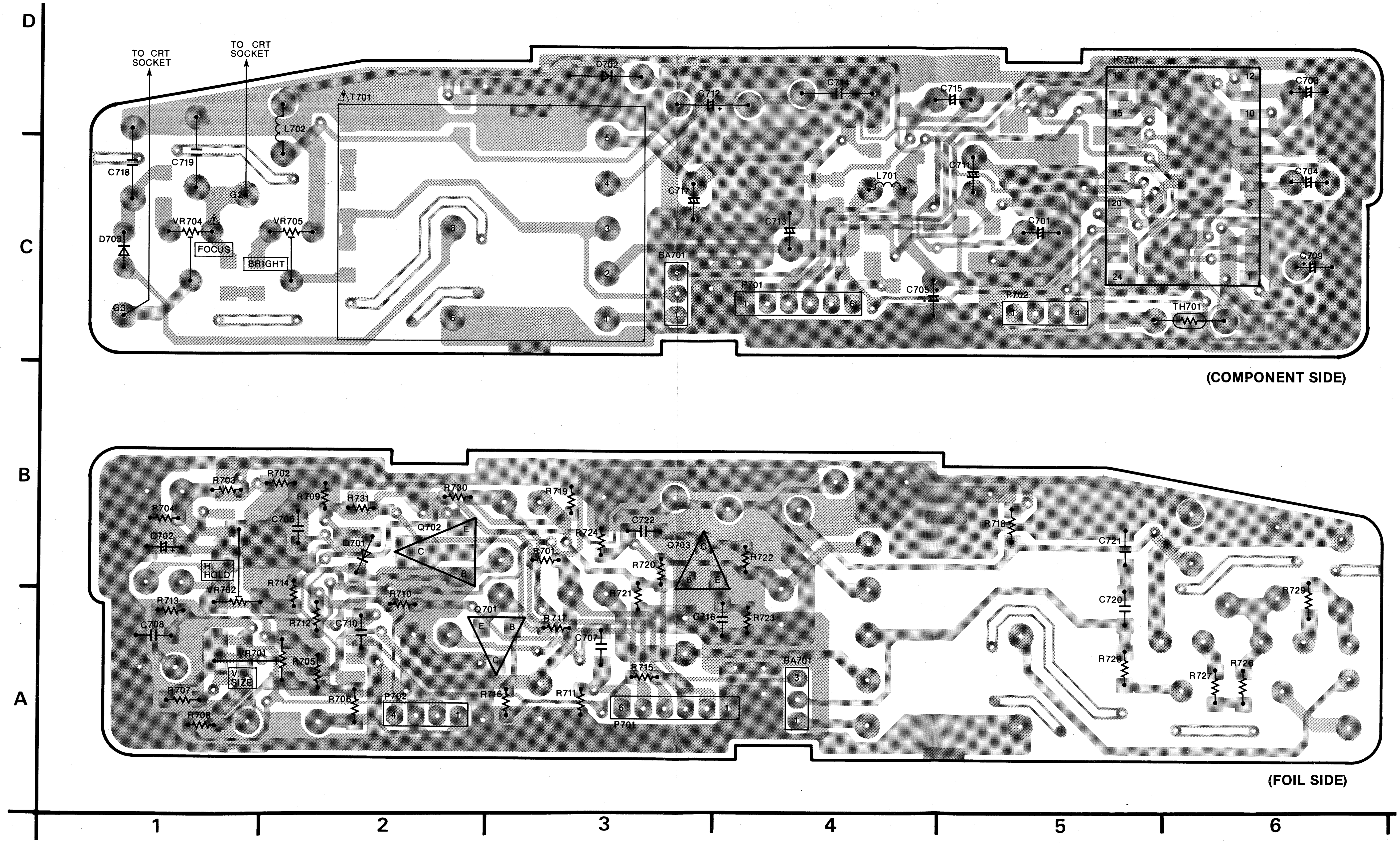
NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

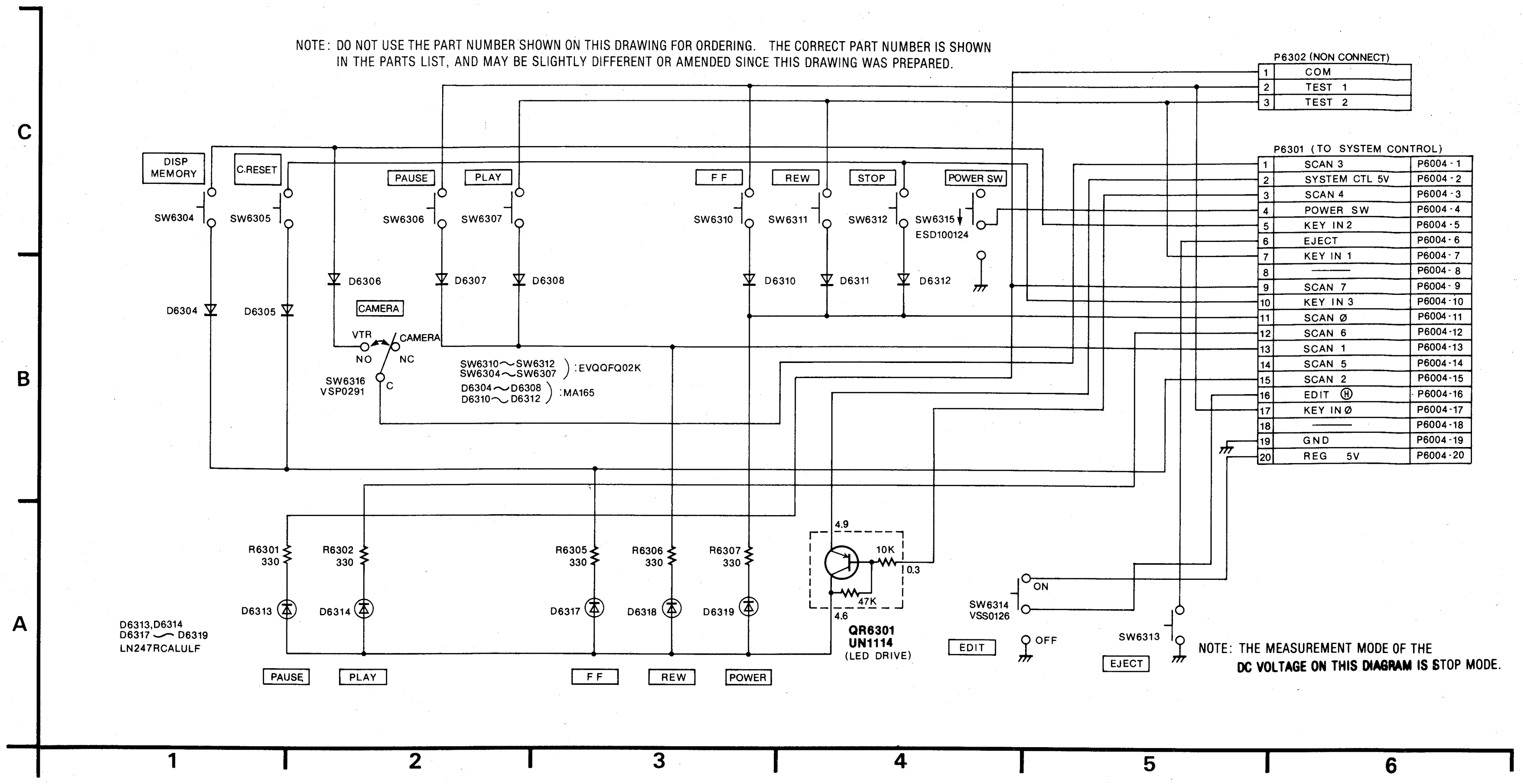
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK △ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

Back Page:
PROCESS & ENCODER PACK Section

3-12. E.V.F. C.B.A. (VEP27036B)


D
C
B
A
1
2
3
4
5
6
TO CRT SOCKET
TO CRT SOCKET
D702
T701
L702
C712
C714
C715
IC701
C703
C718
C719
G2
C717
L701
C711
C704
VR704
VR705
FOCUS
BRIGHT
D703
C713
C701
C709
BA701
P701
C705
P702
TH701
G3
(COMPONENT SIDE)
R703
R702
R709
R731
R730
R719
R704
C706
Q702
D701
C702
R724
C722
Q703
R718
C721
H. HOLD
VR702
R701
R720
R722
R713
R714
R710
R721
R729
C708
R712
C710
Q701
R717
C716
R723
C720
C707
VR701
R705
R728
V. SIZE
R715
BA701
R727
R726
R707
R706
P702
R716
R711
P701
R708
(FOIL SIDE)

3-13. VTR OPERATION SCHEMATIC DIAGRAM


NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

P6302 (NON CONNECT)

1	COM
2	TEST 1
3	TEST 2

P6301 (TO SYSTEM CONTROL)

1	SCAN 3	P6004 - 1
2	SYSTEM CTL 5V	P6004 - 2
3	SCAN 4	P6004 - 3
4	POWER SW	P6004 - 4
5	KEY IN 2	P6004 - 5
6	EJECT	P6004 - 6
7	KEY IN 1	P6004 - 7
8	———	P6004 - 8
9	SCAN 7	P6004 - 9
10	KEY IN 3	P6004 - 10
11	SCAN 0	P6004 - 11
12	SCAN 6	P6004 - 12
13	SCAN 1	P6004 - 13
14	SCAN 5	P6004 - 14
15	SCAN 2	P6004 - 15
16	EDIT Ⓗ	P6004 - 16
17	KEY IN 0	P6004 - 17
18	———	P6004 - 18
19	GND	P6004 - 19
20	REG 5V	P6004 - 20

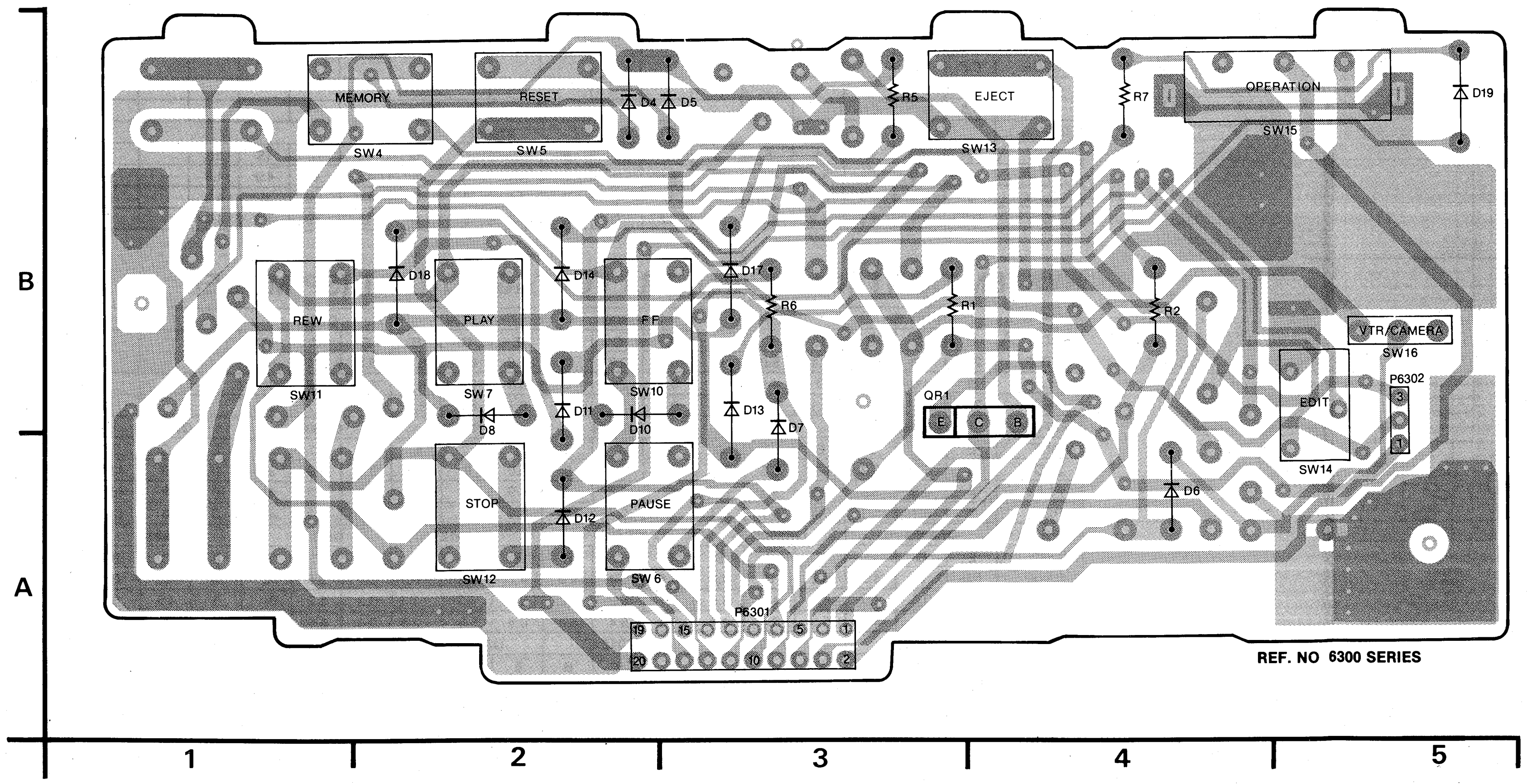
SW6310〜SW6312
SW6304〜SW6307) :EVQQFQ02K
D6304〜D6308
D6310〜D6312) :MA165

D6313,D6314
D6317 〜 D6319
LN247RCALULF

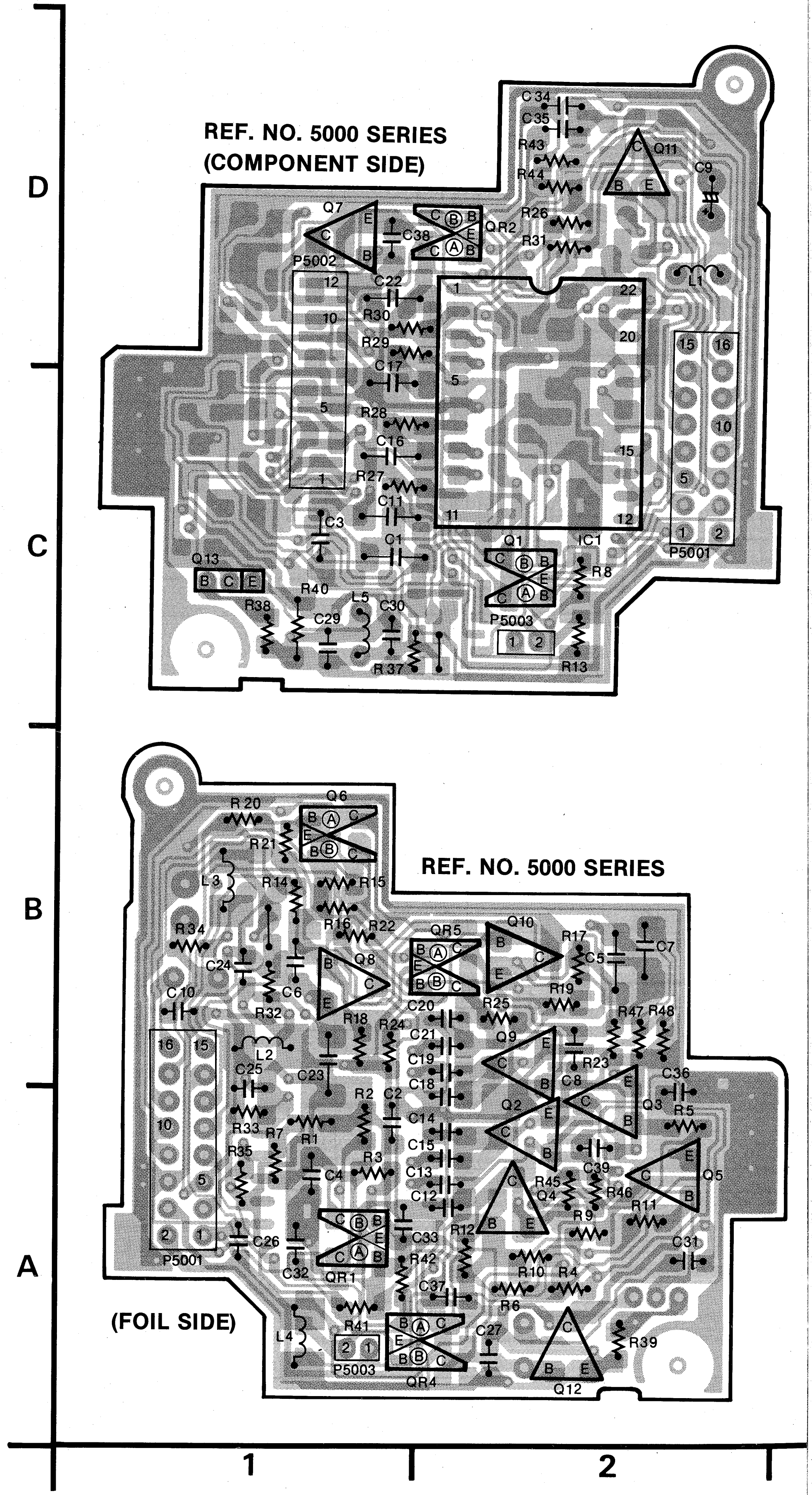
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

C
B
A
DISP MEMORY
C.RESET
PAUSE
PLAY
F F
REW
STOP
POWER SW
SW6304
SW6305
SW6306
SW6307
SW6310
SW6311
SW6312
SW6315
ESD100124
D6304
D6305
D6306
D6307
D6308
D6310
D6311
D6312
CAMERA
VTR
CAMERA
NO
NC
C
SW6316
VSP0291
R6301 330
R6302 330
R6305 330
R6306 330
R6307 330
D6313
D6314
D6317
D6318
D6319
PAUSE
PLAY
F F
REW
POWER
4.9
10K
0.3
47K
4.6
QR6301
UN1114
(LED DRIVE)
ON
SW6314
VSS0126
OFF
EDIT
SW6313
EJECT
1
2
3
4
5
6

3-14. VTR OPERATION C.B.A. (VEP06444D)


B
A
MEMORY
SW4
RESET
SW5
D4
D5
R5
EJECT
SW13
R7
OPERATION
SW15
D19
REW
SW11
D18
PLAY
SW7
D14
F F
SW10
D17
R6
R1
R2
VTR/CAMERA
SW16
P6302
D8
D11
D10
D13
D7
QR1
E
C
B
EDIT
SW14
STOP
SW12
D12
PAUSE
SW 6
D6
P6301
19
15
5
1
20
10
2
REF. NO 6300 SERIES
1
2
3
4
5

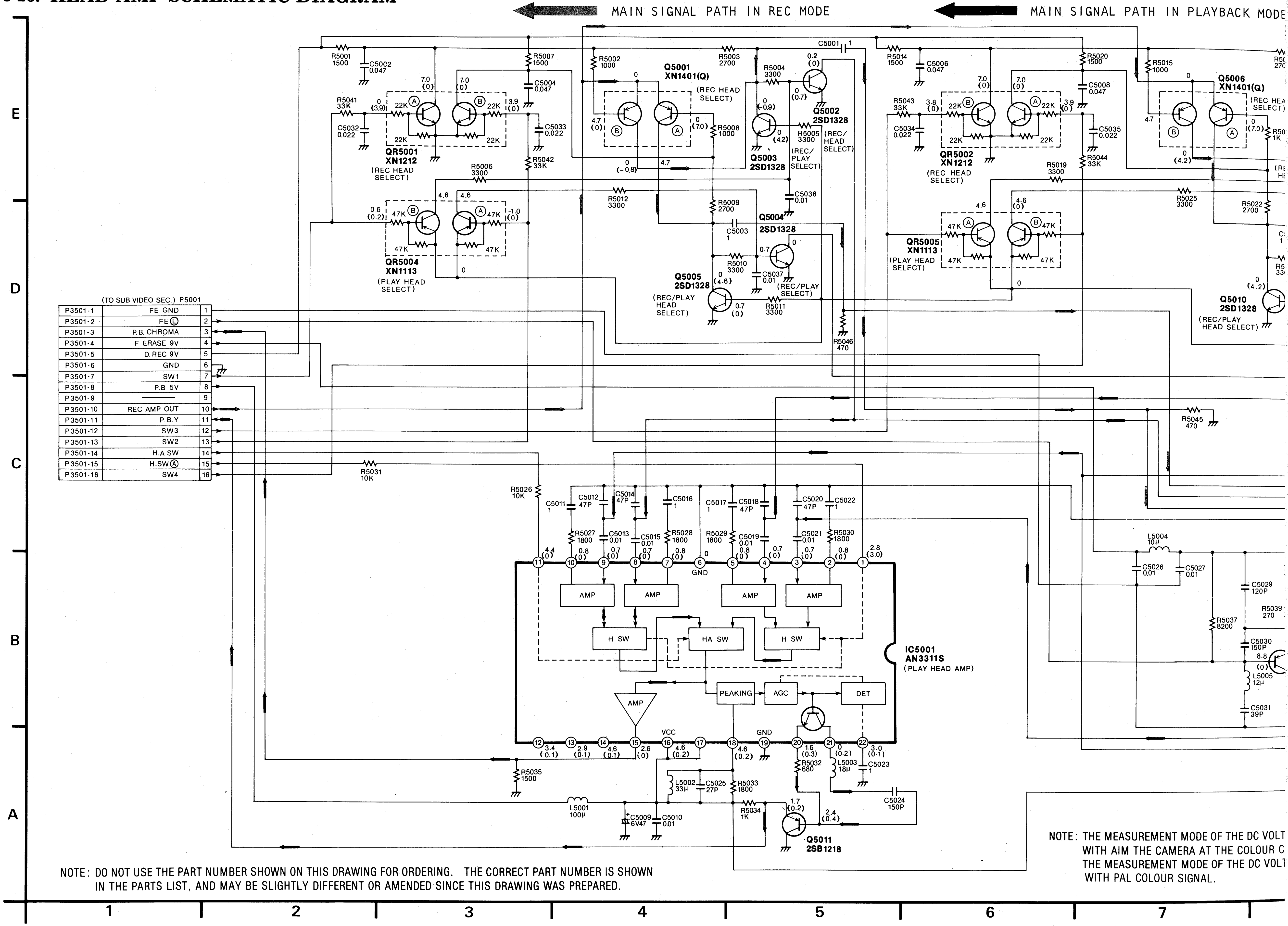
3-15. HEAD AMP C.B.A. (VEP05112B)


REF. NO. 5000 SERIES
(COMPONENT SIDE)
D
C
C34
C35
R43
R44
Q11
C9
Q7
C38
QR2
R26
R31
P5002
C22
R30
R29
C17
R28
C16
R27
C11
C3
C1
IC1
Q1
R8
L1
P5001
Q13
R40
R38
L5
C29
C30
R37
P5003
R13
REF. NO. 5000 SERIES
(FOIL SIDE)
B
A
R 20
Q6
R21
L 3
R14
R15
R16
R22
R34
QR5
Q10
R17
C5
C7
C24
C6
Q8
R19
C10
R32
R18
R24
C20
R25
R47
R48
L2
C21
Q9
C25
C23
C19
C18
R23
C8
C36
R2
C2
C14
Q2
Q3
R5
R33
R7
R1
C15
R35
C4
R3
C13
C39
Q5
R45
Q4
R46
R11
C12
R9
C33
R12
C26
C32
QR1
R42
C31
C37
R10
R4
R6
L4
R41
C27
R39
P5003
QR4
Q12
1
2

3-16. HEAD AMP SCHEMATIC DIAGRAM

SP HEAD AMP C.B.A.	
Transistor	
Q5001	C-2 Ⓒ
Q5002	A-2 Ⓕ
Q5003	A-2 Ⓕ
Q5004	A-2 Ⓕ
Q5005	A-2 Ⓕ
Q5006	B-1 Ⓕ
Q5007	D-1 Ⓒ
Q5008	B-1 Ⓕ
Q5009	B-2 Ⓕ
Q5010	B-2 Ⓕ
Q5011	D-2 Ⓒ
Q5012	A-2 Ⓕ
Q5013	C-1 Ⓒ
Transistor & Resistor	
QR5001	A-1 Ⓕ
QR5002	D-2 Ⓒ
QR5004	A-2 Ⓕ
QR5005	B-2 Ⓕ
Integrated Circuit	
IC5001	C-2 Ⓒ
Connector	
P5001	C-2 Ⓒ
P5001	A-1 Ⓕ
P5002	D-1 Ⓒ
P5003	C-2 Ⓒ
P5003	A-1 Ⓕ

ADDRESS INFORMATION
Ⓒ...COMPONENT SIDE
Ⓕ...FOIL SIDE

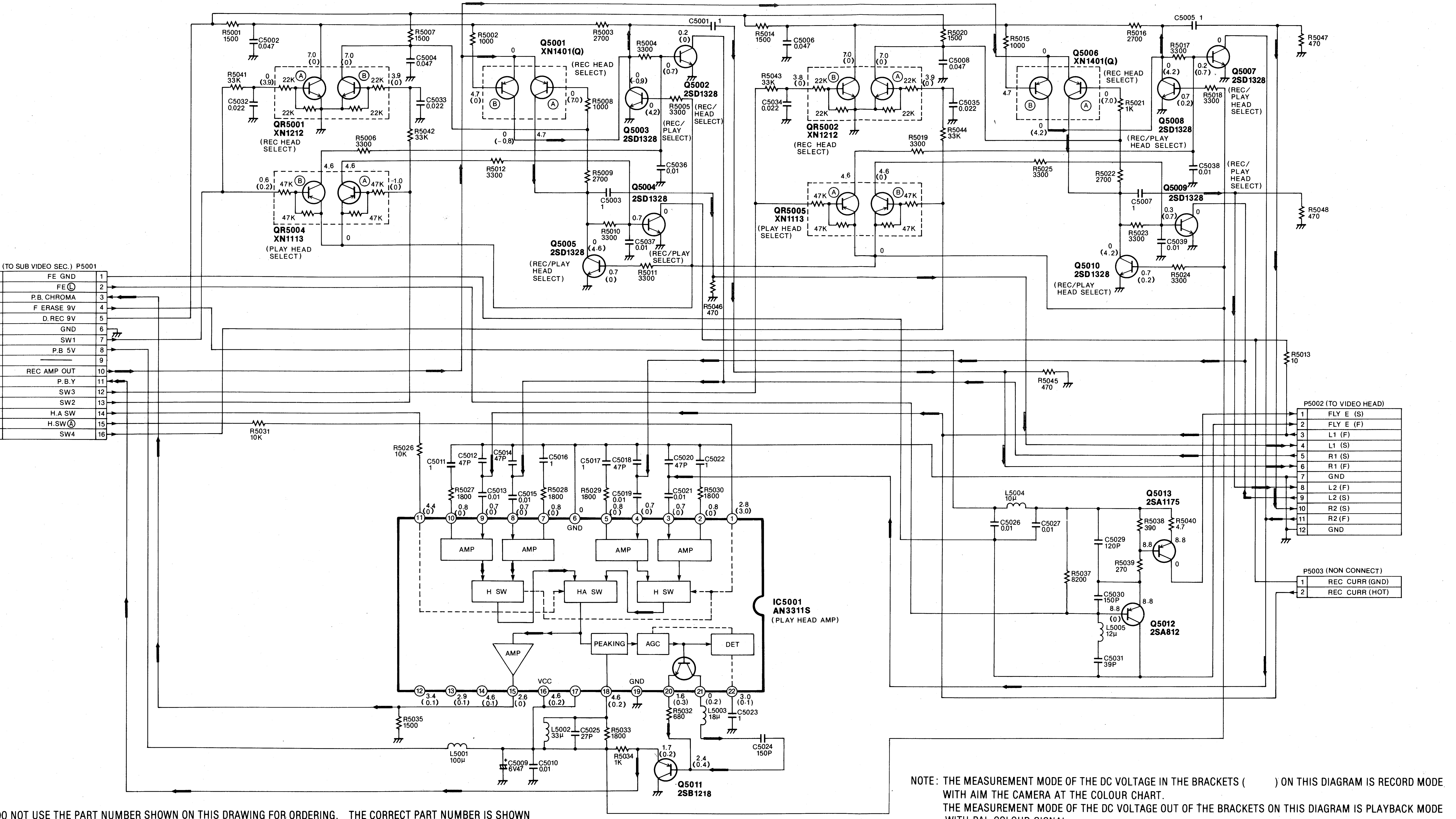

MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE
E
D
C
B
A
1
2
3
4
5
6
7
R5001 1500
C5002 0.047
R5041 33K
C5032 0.022
QR5001 XN1212 (REC HEAD SELECT)
R5007 1500
C5004 0.047
C5033 0.022
R5042 33K
R5006 3300
QR5004 XN1113 (PLAY HEAD SELECT)
R5002 1000
Q5001 XN1401(Q) (REC HEAD SELECT)
R5003 2700
R5004 3300
C5001 1
Q5002 2SD1328
R5005 3300 (REC/HEAD SELECT)
R5008 1000
Q5003 2SD1328 (REC/PLAY SELECT)
R5012 3300
R5009 2700
C5036 0.01
C5003 1
Q5004 2SD1328
R5010 3300
C5037 0.01
Q5005 2SD1328 (REC/PLAY HEAD SELECT)
(REC/PLAY SELECT)
R5011 3300
R5046 470
R5014 1500
C5006 0.047
R5043 33K
C5034 0.022
QR5002 XN1212 (REC HEAD SELECT)
R5020 1500
C5008 0.047
C5035 0.022
R5044 33K
R5019 3300
QR5005 XN1113 (PLAY HEAD SELECT)
R5015 1000
Q5006 XN1401(Q) (REC HEAD SELECT)
R5025 3300
R5022 2700
Q5010 2SD1328 (REC/PLAY HEAD SELECT)
(TO SUB VIDEO SEC.) P5001
P3501-1 FE GND 1
P3501-2 FEⓁ 2
P3501-3 P.B. CHROMA 3
P3501-4 F ERASE 9V 4
P3501-5 D.REC 9V 5
P3501-6 GND 6
P3501-7 SW1 7
P3501-8 P.B 5V 8
P3501-9 ——— 9
P3501-10 REC AMP OUT 10
P3501-11 P.B.Y 11
P3501-12 SW3 12
P3501-13 SW2 13
P3501-14 H.A SW 14
P3501-15 H.SWⒶ 15
P3501-16 SW4 16
R5031 10K
R5045 470
R5026 10K
C5011 1
C5012 47P
C5014 47P
C5016 1
C5017 1
C5018 47P
C5020 47P
C5022 1
R5027 1800
C5013 0.01
C5015 0.01
R5028 1800
R5029 1800
C5019 0.01
C5021 0.01
R5030 1800
GND
AMP
H SW
HA SW
PEAKING
AGC
DET
VCC
IC5001 AN3311S (PLAY HEAD AMP)
L5004 10μ
C5026 0.01
C5027 0.01
R5037 8200
C5029 120P
R5039 270
C5030 150P
L5005 12μ
C5031 39P
R5035 1500
L5001 100μ
C5009 6V47
C5010 0.01
L5002 33μ
C5025 27P
R5033 1800
R5034 1K
R5032 680
L5003 18μ
C5023 1
C5024 150P
Q5011 2SB1218

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

NOTE: THE MEASUREMENT MODE OF THE DC VOLT
WITH AIM THE CAMERA AT THE COLOUR C
THE MEASUREMENT MODE OF THE DC VOLT
WITH PAL COLOUR SIGNAL.

MAIN SIGNAL PATH IN REC MODE

MAIN SIGNAL PATH IN PLAYBACK MODE


(TO SUB VIDEO SEC.) P5001
1 FE GND
2 FE Ⓛ
3 P.B. CHROMA
4 F ERASE 9V
5 D.REC 9V
6 GND
7 SW1
8 P.B 5V
9
10 REC AMP OUT
11 P.B.Y
12 SW3
13 SW2
14 H.A SW
15 H.SW Ⓐ
16 SW4
QR5001 XN1212 (REC HEAD SELECT)
QR5004 XN1113 (PLAY HEAD SELECT)
Q5001 XN1401(Q) (REC HEAD SELECT)
Q5002 2SD1328
Q5003 2SD1328 (REC/PLAY HEAD SELECT)
Q5004 2SD1328
Q5005 2SD1328 (REC/PLAY HEAD SELECT)
QR5002 XN1212 (REC HEAD SELECT)
QR5005 XN1113 (PLAY HEAD SELECT)
Q5006 XN1401(Q) (REC HEAD SELECT)
Q5007 2SD1328 (REC/PLAY HEAD SELECT)
Q5008 2SD1328 (REC/PLAY HEAD SELECT)
Q5009 2SD1328 (REC/PLAY HEAD SELECT)
Q5010 2SD1328 (REC/PLAY HEAD SELECT)
Q5013 2SA1175
Q5012 2SA812
Q5011 2SB1218
IC5001 AN3311S (PLAY HEAD AMP)
AMP
H SW
HA SW
PEAKING
AGC
DET
VCC
GND
P5002 (TO VIDEO HEAD)
1 FLY E (S)
2 FLY E (F)
3 L1 (F)
4 L1 (S)
5 R1 (S)
6 R1 (F)
7 GND
8 L2 (F)
9 L2 (S)
10 R2 (S)
11 R2 (F)
12 GND
P5003 (NON CONNECT)
1 REC CURR (GND)
2 REC CURR (HOT)
R5001 1500
C5002 0.047
R5041 33K
C5032 0.022
R5007 1500
C5004 0.047
C5033 0.022
R5042 33K
R5006 3300
R5002 1000
R5003 2700
R5004 3300
C5001 1
R5005 3300
R5008 1000
R5012 3300
R5009 2700
C5003 1
C5036 0.01
R5010 3300
C5037 0.01
R5011 3300
R5046 470
R5014 1500
C5006 0.047
R5043 33K
C5034 0.022
R5020 1500
C5008 0.047
C5035 0.022
R5044 33K
R5019 3300
R5015 1000
R5016 2700
C5005 1
R5017 3300
R5018 3300
R5021 1K
R5025 3300
R5022 2700
C5007 1
C5038 0.01
R5023 3300
C5039 0.01
R5024 3300
R5047 470
R5048 470
R5013 10
R5045 470
R5031 10K
R5026 10K
C5011 1
C5012 47P
C5014 47P
C5016 1
R5027 1800
C5013 0.01
C5015 0.01
R5028 1800
C5017 1
C5018 47P
R5029 1800
C5019 0.01
C5020 47P
C5022 1
C5021 0.01
R5030 1800
R5035 1500
L5001 100µ
C5009 6V47
C5010 0.01
L5002 33µ
C5025 27P
R5033 1800
R5034 1K
R5032 680
L5003 18µ
C5023 1
C5024 150P
L5004 10µ
C5026 0.01
C5027 0.01
R5037 8200
C5029 120P
R5038 390
R5040 4.7
R5039 270
C5030 150P
L5005 12µ
C5031 39P

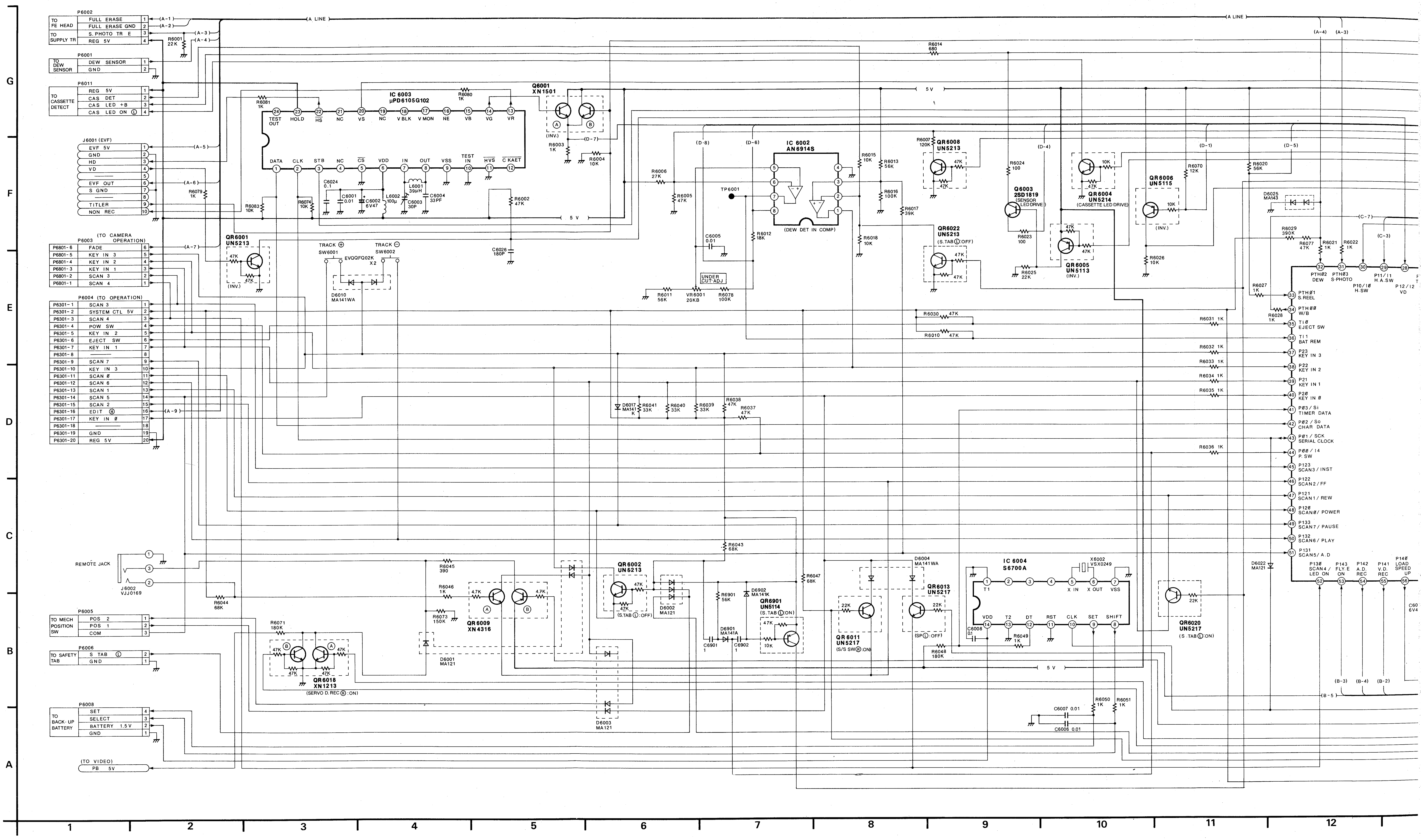
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH AIM THE CAMERA AT THE COLOUR CHART.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

O NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN
N THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

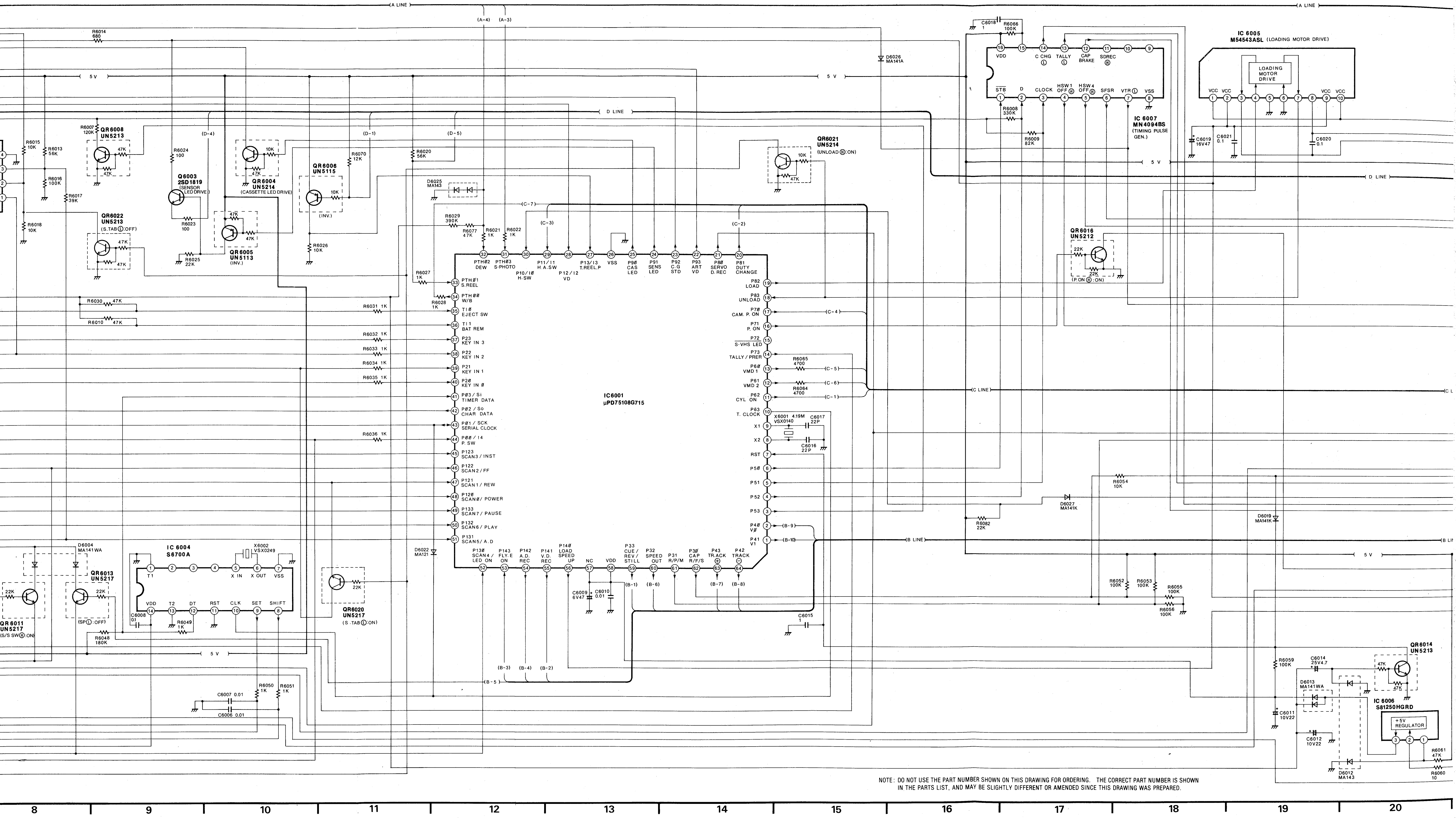
1	2	3	4	5	6	7	8	9

Next Page:
SYSTEM CONTROL Section

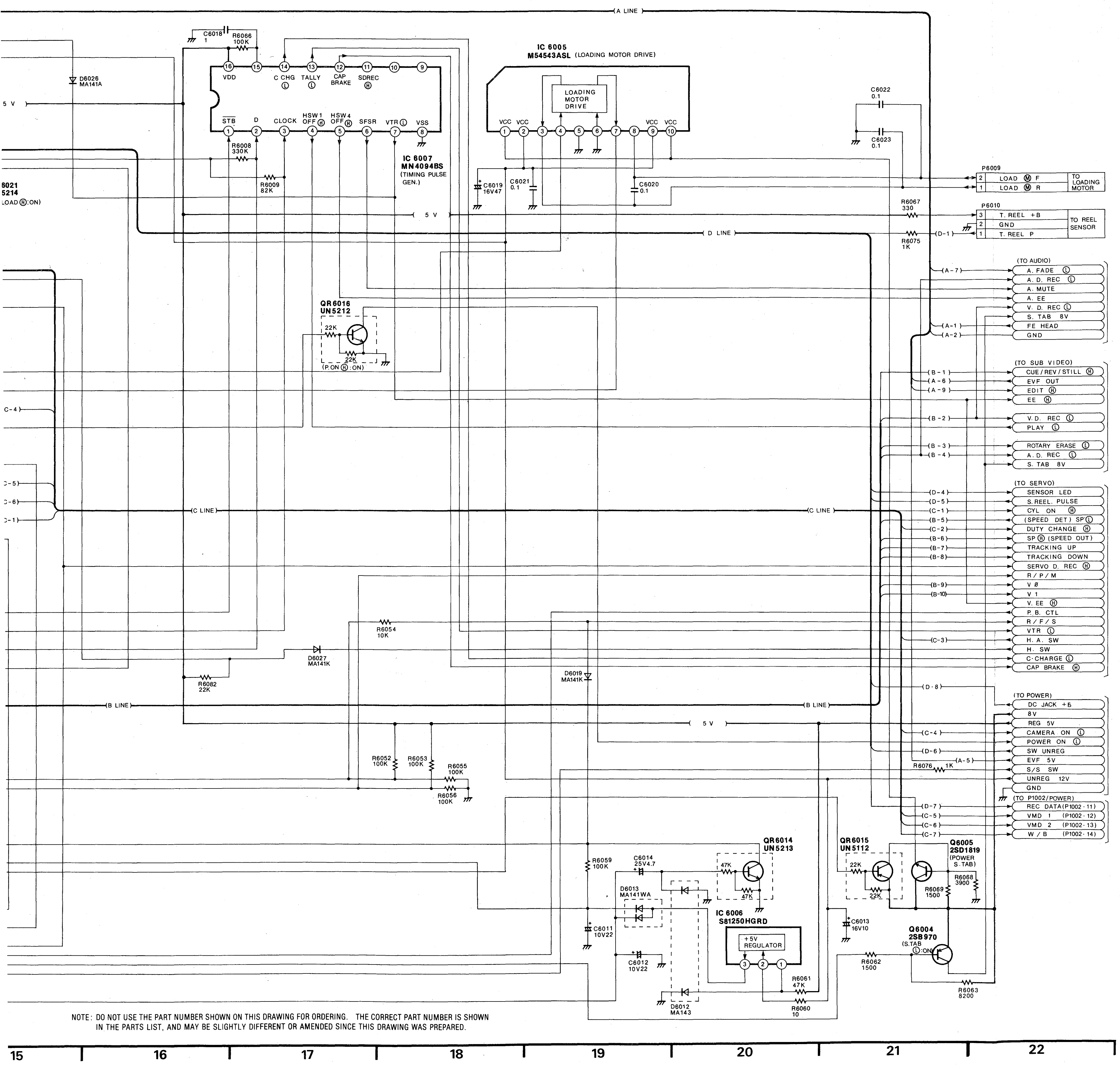
3-17. SYSTEM CONTROL SCHEMATIC DIAGRAM



P6002
TO FE HEAD
FULL ERASE
FULL ERASE GND
TO SUPPLY TR
S. PHOTO TR E
REG 5V
P6001
TO DEW SENSOR
DEW SENSOR
GND
P6011
TO CASSETTE DETECT
REG 5V
CAS DET
CAS LED +B
CAS LED ON
J6001 (EVF)
EVF 5V
GND
HD
VD
EVF OUT
S GND
TITLER
NON REC
P6003 (TO CAMERA OPERATION)
FADE
KEY IN 3
KEY IN 2
KEY IN 1
SCAN 3
SCAN 4
P6004 (TO OPERATION)
SCAN 3
SYSTEM CTL 5V
SCAN 3
POW SW
KEY IN 2
EJECT SW
KEY IN 1
SCAN 7
KEY IN 3
SCAN 0
SCAN 6
SCAN 1
SCAN 5
SCAN 2
EDIT
KEY IN 0
GND
REG 5V
REMOTE JACK
J6002 VJJ0169
P6005
TO MECH POSITION SW
POS 2
POS 1
COM
P6006
TO SAFETY TAB
S TAB
GND
P6008
TO BACK-UP BATTERY
SET
SELECT
BATTERY 1.5V
GND
(TO VIDEO)
PB 5V
A LINE
IC 6003
μPD6105G102
TEST OUT
HOLD
HS
NC
VS
NC
V BLK
V MON
NE
VB
VG
VR
DATA
CLK
STB
NC
CS
VDD
IN
OUT
VSS
TEST IN
HVS
C KAET
Q6001 XN1501
(INV.)
QR6001 UN5213
(INV.)
TRACK ⊕
TRACK ⊖
SW6001
SW6002
EVQQFQ02K X2
D6010 MA141WA
IC 6002 AN6914S
(DEW DET IN COMP)
TP6001
UNDER CUT ADJ
VR6001 20KB
QR6008 UN5213
QR6022 UN5213
(S.TAB Ⓛ:OFF)
Q6003 2SD1819
(SENSOR LED DRIVE)
QR6004 UN5214
(CASSETTE LED DRIVE)
QR6005 UN5113
(INV.)
QR6006 UN5115
(INV.)
D6025 MA143
5V
PTH02 DEW
PTH03 S·PHOTO
P10/10 H.SW
P11/11 H.A.SW
P12/12 VD
PTH01 S.REEL
PTH00 W/B
TI0 EJECT SW
TI1 BAT REM
P23 KEY IN 3
P22 KEY IN 2
P21 KEY IN 1
P20 KEY IN 0
P03/Si TIMER DATA
P02/So CHAR DATA
P01/SCK SERIAL CLOCK
P00/I4 P.SW
P123 SCAN3/INST
P122 SCAN2/FF
P121 SCAN1/REW
P120 SCAN0/POWER
P133 SCAN7/PAUSE
P132 SCAN6/PLAY
P131 SCAN5/A.D
P130 SCAN4/LED ON
P143 FLY.E ON
P142 A.D. REC
P141 V.D. REC
P140 LOAD SPEED UP
D6017 MA141K
D6022 MA121
QR6009 XN4316
QR6018 XN1213
(SERVO D.REC Ⓡ:ON)
D6001 MA121
QR6002 UN5213
(S.TAB Ⓛ:OFF)
D6002 MA121
D6003 MA121
D6901 MA141A
D6902 MA141K
QR6901 UN5114
(S.TAB Ⓛ:ON)
QR6011 UN5217
(S/S SW Ⓡ:ON)
D6004 MA141WA
QR6013 UN5217
(SP Ⓛ:OFF)
IC 6004 S6700A
X6002 VSX0249
T1
X IN
X OUT
VSS
VDD
T2
DT
RST
CLK
SET
SHIFT
QR6020 UN5217
(S.TAB Ⓛ:ON)
C6007 0.01
C6006 0.01
R6001 22K
R6079 1K
R6081 1K
R6080 1K
R6083 10K
R6074 10K
R6002 47K
R6003 1K
R6004 10K
C6024 0.1
C6001 0.01
C6002 6V47
L6001 39μH
L6002 100μ
C6003 30P
C6004 33PF
C6026 180P
R6006 27K
R6005 47K
R6012 18K
C6005 0.01
R6011 56K
R6078 100K
R6015 10K
R6013 56K
R6016 100K
R6017 39K
R6018 10K
R6014 680
R6007 120K
R6024 100
R6023 100
R6025 22K
R6070 12K
R6026 10K
R6020 56K
R6029 390K
R6077 47K
R6021 1K
R6022 1K
R6027 1K
R6028 1K
R6030 47K
R6010 47K
R6031 1K
R6032 1K
R6033 1K
R6034 1K
R6035 1K
R6036 1K
R6041 33K
R6040 33K
R6039 33K
R6038 47K
R6037 47K
R6043 68K
R6044 68K
R6045 390
R6046 1K
R6073 150K
R6071 180K
R6901 56K
C6901 1
C6902 1
R6047 68K
R6048 180K
R6049 1K
C6008 0.1
R6050 1K
R6051 1K
(A-1)
(A-2)
(A-3)
(A-4)
(A-5)
(A-6)
(A-7)
(A-9)
(D-1)
(D-4)
(D-5)
(D-6)
(D-7)
(D-8)
(C-3)
(C-7)
(B-2)
(B-3)
(B-4)
(B-5)
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12


A LINE
D LINE
C LINE
B LINE
5 V
(A-4)
(A-3)
R6014 680
R6015 10K
R6013 56K
R6016 100K
R6017 39K
R6018 10K
R6007 120K
QR6008 UN5213
47K
47K
QR6022 UN5213
(S.TAB Ⓛ:OFF)
47K
47K
R6030 47K
R6010 47K
R6024 100
Q6003 2SD1819
(SENSOR LED DRIVE)
R6023 100
R6025 22K
(D-4)
QR6004 UN5214
(CASSETTE LED DRIVE)
10K
47K
QR6005 UN5113
(INV.)
47K
47K
QR6006 UN5115
(INV.)
10K
R6026 10K
R6070 12K
(D-1)
(D-5)
R6020 56K
D6025 MA143
(C-7)
(C-3)
(C-2)
R6029 390K
R6077 47K
R6021 1K
R6022 1K
R6027 1K
R6028 1K
R6031 1K
R6032 1K
R6033 1K
R6034 1K
R6035 1K
R6036 1K
D6022 MA121
D6026 MA141A
QR6021 UN5214
(UNLOAD Ⓗ:ON)
10K
47K
IC6001
µPD75108G715
PTHØ2 DEW
PTHØ3 S-PHOTO
P10/IØ H-SW
P11/I1 H.A.SW
P12/I2 VD
P13/I3 T.REEL.P
VSS
P9Ø CAS LED
P91 SENS LED
P92 C.G STD
P93 ART VD
P8Ø SERVO D.REC
P81 DUTY CHANGE
PTHØ1 S.REEL
PTHØØ W/B
TIØ EJECT SW
TI1 BAT REM
P23 KEY IN 3
P22 KEY IN 2
P21 KEY IN 1
P2Ø KEY IN Ø
P03/SI TIMER DATA
P02/SO CHAR DATA
P01/SCK SERIAL CLOCK
P00/I4 P. SW
P123 SCAN3/INST
P122 SCAN2/FF
P121 SCAN1/REW
P12Ø SCANØ/POWER
P133 SCAN7/PAUSE
P132 SCAN6/PLAY
P131 SCAN5/A.D
P82 LOAD
P83 UNLOAD
P7Ø CAM. P. ON
P71 P. ON
P72 S-VHS LED
P73 TALLY/PREP
P6Ø VMD 1
P61 VMD 2
P62 CYL ON
P63 T. CLOCK
X1
X2
RST
P5Ø
P51
P52
P53
P4Ø VØ
P41 V1
P13Ø SCAN4/LED ON
P143 FLY.E ON
P142 A.D. REC
P141 V.D. REC
P14Ø LOAD SPEED UP
NC
VDD
P33 CUE/REV/STILL
P32 SPEED OUT
P31 R/P/M
P3Ø CAP R/F/S
P43 TR.ACK ⊕
P42 TRACK ⊖
R6065 4700
R6064 4700
(C-4)
(C-5)
(C-6)
(C-1)
X6001 4.19M VSX0140
C6017 22P
C6016 22P
(B-9)
(B-10)
(B-1)
(B-6)
(B-7)
(B-8)
(B-3)
(B-4)
(B-2)
(B-5)
C6009 6V47
C6010 0.01
C6015 1
QR6020 UN5217
(S.TAB Ⓛ:ON)
22K
IC 6004 S6700A
T1
X IN
X OUT
VSS
VDD
T2
DT
RST
CLK
SET
SHIFT
X6002 VSX0249
C6008 .01
R6049 1K
R6048 180K
C6007 0.01
C6006 0.01
R6050 1K
R6051 1K
D6004 MA141WA
QR6011 UN5217
(S/S SW Ⓗ:ON)
22K
QR6013 UN5217
(SP Ⓛ:OFF)
22K
C6018 1
R6066 100K
VDD
C CHG Ⓛ
TALLY Ⓛ
CAP BRAKE
SDREC Ⓗ
STB
D
CLOCK
HSW1 OFF Ⓗ
HSW4 OFF Ⓗ
SFSR
VTR Ⓛ
VSS
IC 6007
MN4094BS
(TIMING PULSE GEN.)
R6008 330K
R6009 82K
IC 6005
M54543ASL (LOADING MOTOR DRIVE)
LOADING MOTOR DRIVE
VCC
VCC
VCC
VCC
C6019 16V47
C6021 0.1
C6020 0.1
QR6016 UN5212
(P.ON Ⓗ:ON)
22K
22K
R6054 10K
D6027 MA141K
R6082 22K
D6019 MA141K
R6052 100K
R6053 100K
R6055 100K
R6056 100K
R6059 100K
C6014 25V4.7
D6013 MA141WA
C6011 10V22
C6012 10V22
D6012 MA143
QR6014 UN5213
47K
47K
IC 6006 S81250HGRD
+5V REGULATOR
R6061 47K
R6060 10
8
9
10
11
12
13
14
15
16
17
18
19
20

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.


(A LINE)
(D LINE)
(C LINE)
(B LINE)
5 V
C6018 1
R6066 100K
IC 6007
MN4094BS
(TIMING PULSE GEN.)
VDD
C CHG Ⓛ
TALLY Ⓛ
CAP BRAKE
SDREC Ⓗ
STB
D
CLOCK
HSW1 OFF Ⓗ
HSW4 OFF Ⓗ
SFSR
VTR Ⓛ
VSS
R6008 330K
R6009 82K
IC 6005
M54543ASL (LOADING MOTOR DRIVE)
LOADING MOTOR DRIVE
VCC
C6019 16V47
C6021 0.1
C6020 0.1
C6022 0.1
C6023 0.1
D6026 MA141A
8021
5214
LOAD Ⓗ:ON)
QR6016
UN5212
22K
(P.ON Ⓗ:ON)
P6009
LOAD Ⓜ F
LOAD Ⓜ R
TO LOADING MOTOR
P6010
T. REEL +B
GND
T. REEL P
TO REEL SENSOR
R6067 330
R6075 1K
(TO AUDIO)
A. FADE Ⓛ
A. D. REC Ⓛ
A. MUTE
A. EE
V. D. REC Ⓛ
S. TAB 8V
FE HEAD
GND
(TO SUB VIDEO)
CUE/REV/STILL Ⓗ
EVF OUT
EDIT Ⓗ
EE Ⓗ
V. D. REC Ⓛ
PLAY Ⓛ
ROTARY ERASE Ⓛ
A. D. REC Ⓛ
S. TAB 8V
(TO SERVO)
SENSOR LED
S. REEL. PULSE
CYL ON Ⓗ
(SPEED DET) SPⓁ
DUTY CHANGE Ⓗ
SPⒽ (SPEED OUT)
TRACKING UP
TRACKING DOWN
SERVO D. REC Ⓗ
R/P/M
V Ø
V 1
V. EE Ⓗ
P. B. CTL
R/F/S
VTR Ⓛ
H. A. SW
H. SW
C-CHARGE Ⓛ
CAP BRAKE Ⓗ
(TO POWER)
DC JACK +B
8V
REG 5V
CAMERA ON Ⓛ
POWER ON Ⓛ
SW UNREG
EVF 5V
S/S SW
UNREG 12V
GND
(TO P1002/POWER)
REC DATA (P1002-11)
VMD 1 (P1002-12)
VMD 2 (P1002-13)
W/B (P1002-14)
R6054 10K
D6027 MA141K
R6082 22K
D6019 MA141K
R6052 100K
R6053 100K
R6055 100K
R6056 100K
R6076 1K
R6059 100K
C6011 10V22
C6014 25V4.7
D6013 MA141WA
C6012 10V22
D6012 MA143
QR6014
UN5213
47K
IC 6006
S81250HGRD
+5V REGULATOR
R6061 47K
R6060 10
QR6015
UN5112
Q6005
2SD1819
(POWER S.TAB)
R6068 3900
R6069 1500
C6013 16V10
Q6004
2SB970
(S.TAB Ⓛ:ON)
R6062 1500
R6063 8200
15
16
17
18
19
20
21
22

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

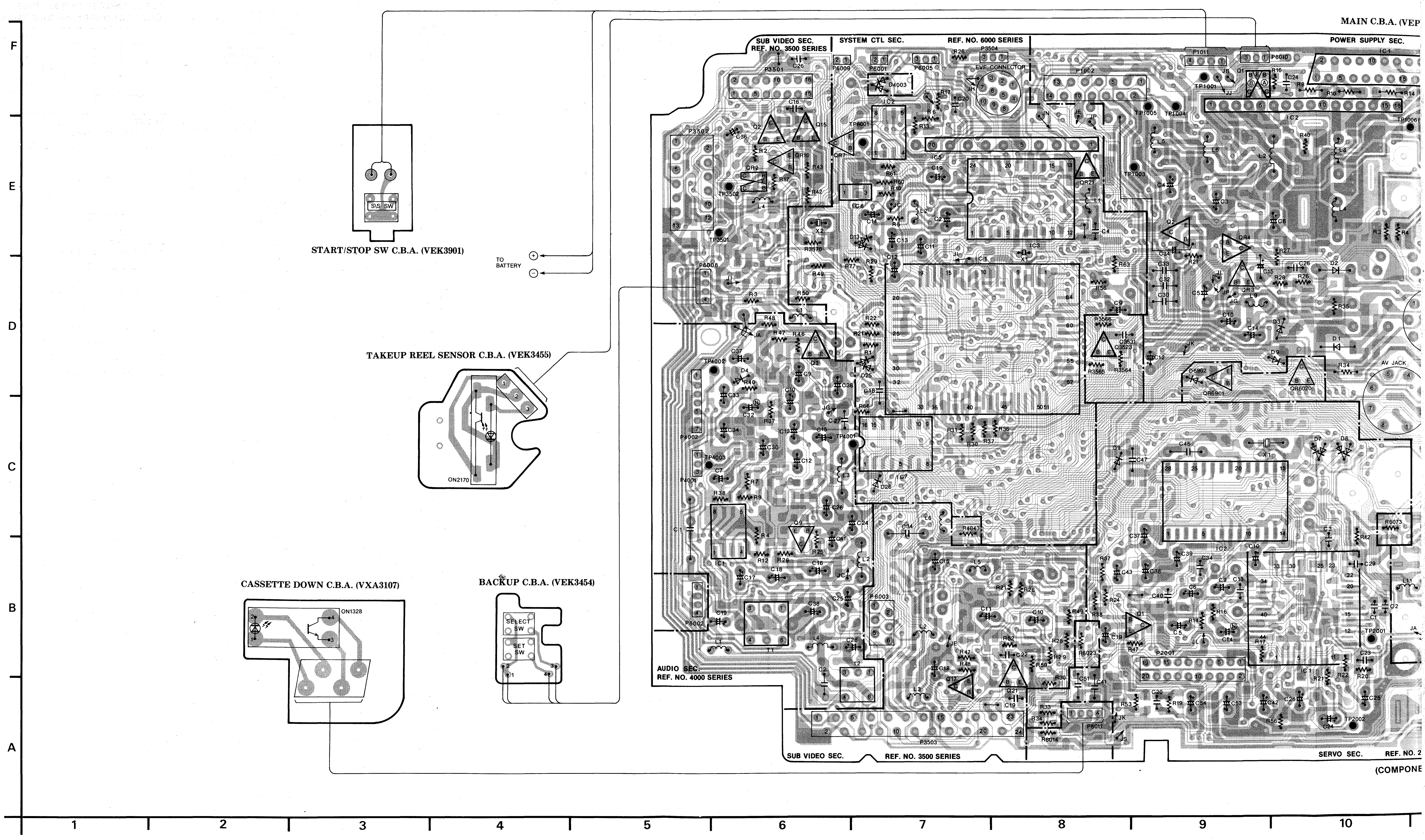
SYSTEM CONTROL Section ICs VOLTAGE CHART (SP MODE)

REF. NO.	IC6001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0	4.9	4.9	4.9	4.9	0	4.9	2.6	—	4.8	0	0	0	4.9	4.9	4.9	0.1	0	0	0
PLAY	0	4.9	4.9	4.9	4.9	0	4.9	2.6	0	4.8	0	0	0	4.9	0	4.9	4.9	0	0	0
REC	0.2	4.9	4.9	4.9	4.9	0.2	4.9	2.6	—	4.8	4.9	0.2	0.2	0	4.9	4.9	0.3	0.1	0.1	0.1
REF. NO.	IC6001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	0	4.9	0	4.9	3.9	0	0	0.3	2.4	1.8	0	0	4.7	0.1	4.8	4.8	4.8	4.8	4.5	0.7
PLAY	0	0	0	4.9	0	0	—	0.3	0	1.8	0	0	2.4	0	4.8	4.8	4.8	4.8	1.0	4.4
REC	4.9	4.9	0.1	4.9	0	0	2.4	0.3	2.4	1.8	0	0	2.4	0.1	4.8	4.8	4.8	4.8	1.1	4.4
REF. NO.	IC6001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	4.4	2.5	4.6	4.8	5.5	5.6	4.9	0.3	5.3	5.0	4.1	0.3	8.8	7.8	8.8	8.8	4.9	0	0	0
PLAY	4.4	2.5	4.6	4.8	4.5	4.3	3.3	0.3	4.5	0.4	4.1	0.3	8.8	7.8	8.8	8.8	4.9	4.9	0	4.9
REC	4.4	2.5	4.6	4.8	3.8	4.7	3.8	0	4.8	0.5	4.1	0.4	0	0	0.2	0	0	0	0	0
REF. NO.	IC6001										IC6002									
MODE	61	62	63	64							1	2	3	4	5	6	7	8		
STOP	2.5	0	0	0							4.8	0	3.0	0	3.5	3.1	4.8	4.8		
PLAY	2.5	2.4	0	0							4.8	0	3.0	0	3.5	3.1	4.8	9.7		
REC	0	0	0.2	0							4.8	0	3.0	0	0	3.1	4.8	9.7		
REF. NO.	IC6003																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	2.5	4.6	0.7	0	0	5.0	2.9	2.9	0	0	0	2.1	0	0	0	0	0	0	0	4.9
PLAY	2.5	4.6	0	0	0	4.9	2.9	2.9	0	0	0	2.3	0	0	0	0	0	0	0	4.9
REC	2.5	4.6	0.1	0	0	4.9	2.9	2.9	0	0	0	2.1	0	0	0	0	0	0	0	4.9
REF. NO.	IC6003																			
MODE	21	22	23	24																
STOP	0	4.1	4.9	1.1																
PLAY	0	4.1	4.9	1.1																
REC	0	4.1	4.9	0.4																
REF. NO.	IC6004																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
STOP	0	1.3	0	0	0.7	0.7	0	1.5	1.5	2.4	0	4.5	0	1.5						
PLAY	0	1.4	0	0	0.7	0.7	0	1.5	1.5	2.4	0	4.5	0	1.5						
REC	0	1.5	0	0	0.7	0.7	0	1.5	1.5	2.4	0	4.5	0	1.5						
REF. NO.	IC6005																			
MODE	1	2	3	4	5	6	7	8	9	10										
STOP	8.1	9.9	0	0	0	0	0	0	9.9	8.1										
PLAY	7.9	9.9	0	0	0	0	0	0	9.9	7.9										
REC	7.9	9.9	0.1	0.1	0	0	0.1	0	9.9	7.9										
REF. NO.	IC6006																			
MODE	1	2	3																	
STOP	0.5	9.7	5.6																	
PLAY	0.5	9.7	5.6																	
REC	0.5	9.7	5.6																	
REF. NO.	IC6007																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
STOP	0	4.9	4.9	4.9	4.9	0	4.8	0	0	4.4	0	0	4.9	0	4.9	4.9				
PLAY	0	4.9	4.9	0.2	0	0	0	0	0	4.4	0	0	4.9	4.9	0	4.9				
REC	0.2	4.9	4.9	4.9	4.9	0	4.8	0	0	4.4	0	0	0	4.9	4.9	4.9				

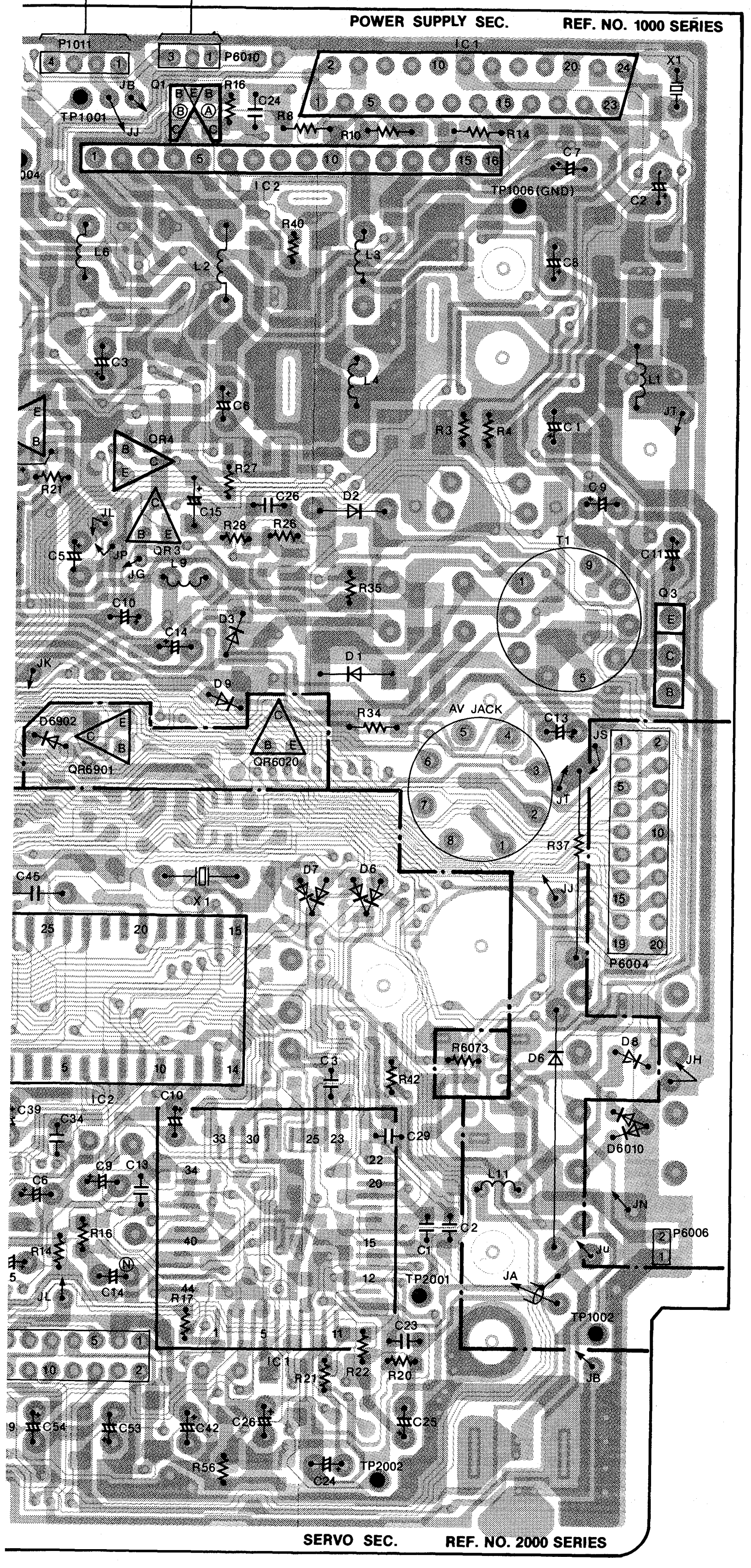
SYSTEM CONTROL Section TRs VOLTAGE CHART (SP MODE)

REF. NO.	Q6001 Ⓐ			Q6001 Ⓑ			Q6003			Q6004			Q6005					
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B			
STOP	2.1	5.0	0	2.1	5.0	0	0.1	2.7	0	8.8	8.8	8.2	8.8	8.1	8.8			
PLAY	0	4.9	0	0	4.9	0	0.1	2.4	0	8.8	8.8	8.1	8.0	8.8	8.7			
REC	2.1	5.0	0	2.1	5.0	0	0.1	2.7	0	8.7	8.6	8.0	8.0	8.7	8.6			
REF. NO.	QR6001			QR6002			QR6004			QR6005			QR6006			QR6008		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	0.3	3.9	0.3	5.5	0.4	0	9.7	0	5.0	0	4.9	5.0	4.9	3.9	0	0	4.9
PLAY	0	0.3	3.8	0.3	5.4	0.4	0	9.7	0	4.9	0	4.9	4.9	2.3	4.4	0	0	4.9
REC	0	0.3	3.8	0.4	5.7	0.4	0	9.7	0	5.0	0	4.9	5.0	2.3	4.0	0	0	4.9
REF. NO.	QR6009 Ⓐ			QR6009 Ⓑ			QR6011			QR6012			QR6013			QR6014		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	5.0	0	4.9	5.2	0	4.8	5.4	5.4	4.8	4.7	5.5	−0.1	0.3	5.6	0	0	4.9	0
PLAY	4.9	0.8	4.9	4.9	4.9	4.8	5.1	5.2	4.8	0.4	4.3	−1.3	0.3	5.2	0.1	0	4.9	0
REC	4.9	4.9	4.0	5.3	5.3	4.8	5.3	5.4	4.8	0.5	5.8	−2.8	0.4	5.0	0	0	4.9	0
REF. NO.	QR6015			QR6016			QR6018 Ⓐ			QR6018 Ⓑ								
MODE	E	C	B	E	C	B	E	C	B	E	C	B						
STOP	0	8.1	8.8	0	0	4.9	0	0	0	0	0	4.9						
PLAY	8.8	8.0	8.7	0	0	4.9	0	1.0	0	0	1.0	2.9						
REC	8.7	8.0	8.7	0	0	4.9	0	0	4.9	0	0	2.9						

3-18. MAIN [POWER, AUDIO, SUB VIDEO, SERVO, SYSTEM CONTROL] C.B.A. (VEP06487C)

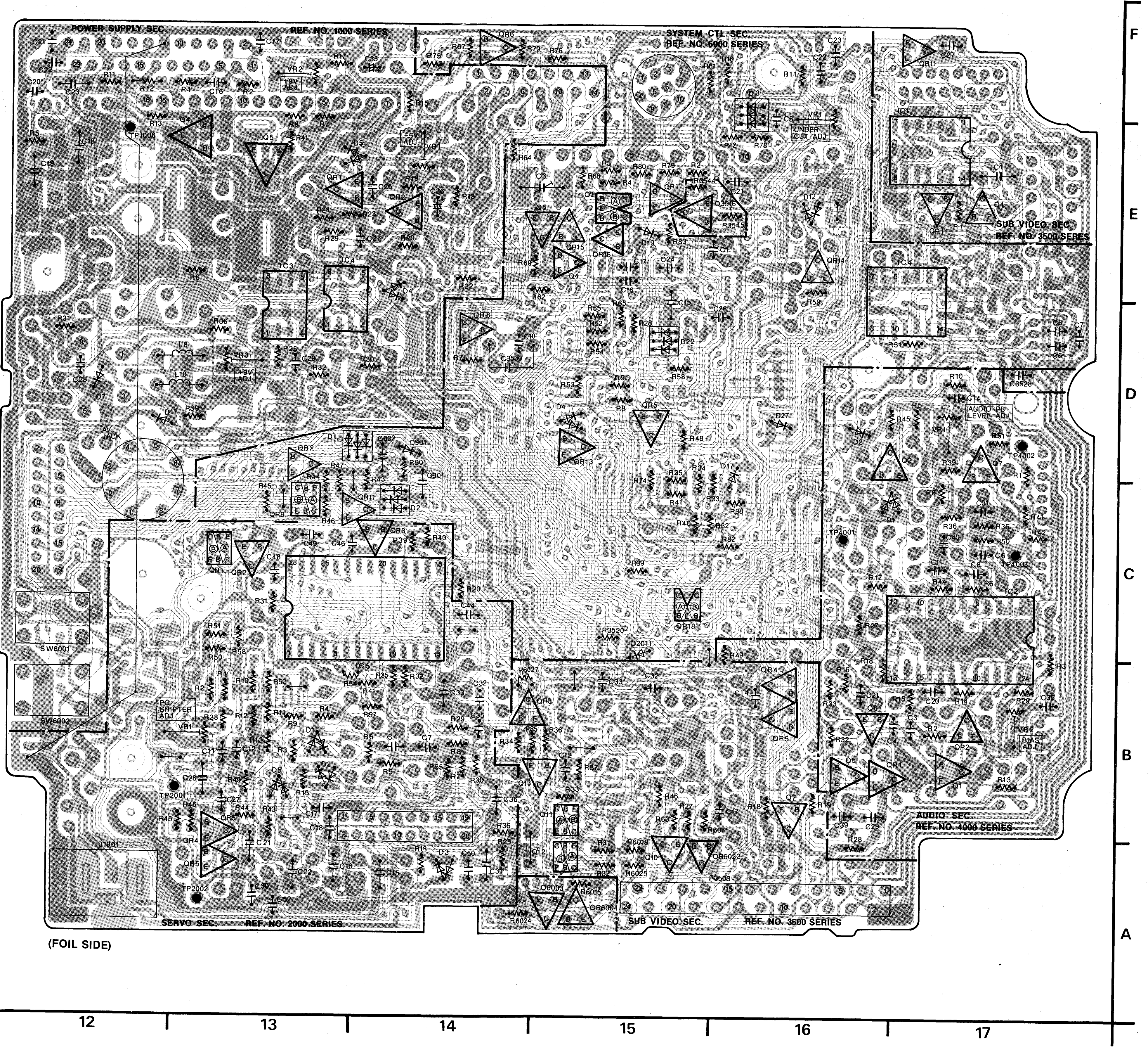

MAIN C.B.A. (VEP
POWER SUPPLY SEC.
SUB VIDEO SEC.
REF. NO. 3500 SERIES
SYSTEM CTL SEC.
REF. NO. 6000 SERIES
EVF CONNECTOR
AV JACK
AUDIO SEC.
REF. NO. 4000 SERIES
SUB VIDEO SEC.
REF. NO. 3500 SERIES
SERVO SEC.
REF. NO. 2
(COMPONE
START/STOP SW C.B.A. (VEK3901)
S\S SW
TO BATTERY
TAKEUP REEL SENSOR C.B.A. (VEK3455)
ON2170
CASSETTE DOWN C.B.A. (VXA3107)
ON1328
BACKUP C.B.A. (VEK3454)
SELECT SW
SET SW
IC1
IC2
IC3
IC5
IC6
IC7
P3501
P3502
P3503
P3504
P6001
P6002
P6003
P6005
P6008
P6009
P6011
P1002
P1011
P2001
P4001
P4002
P6010
TP1001
TP1003
TP1004
TP1005
TP1006
TP2001
TP2002
TP3501
TP3502
TP4001
TP4002
TP4003
TP6001
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10

MAIN C.B.A. (VEP06487C)


POWER SUPPLY SEC.
REF. NO. 1000 SERIES
AV JACK
SERVO SEC.
REF. NO. 2000 SERIES

(COMPONENT SIDE)

MAIN C.B.A. (VEP06487C)


POWER SUPPLY SEC.
REF. NO. 1000 SERIES
SYSTEM CTL SEC.
REF. NO. 6000 SERIES
SUB VIDEO SEC.
REF. NO. 3500 SERIES
AV JACK
SERVO SEC.
REF. NO. 2000 SERIES
SUB VIDEO SEC.
REF. NO. 3500 SERIES
AUDIO SEC.
REF. NO. 4000 SERIES
F
E
D
C
B
A
9
10
11
12
13
14
15
16
17

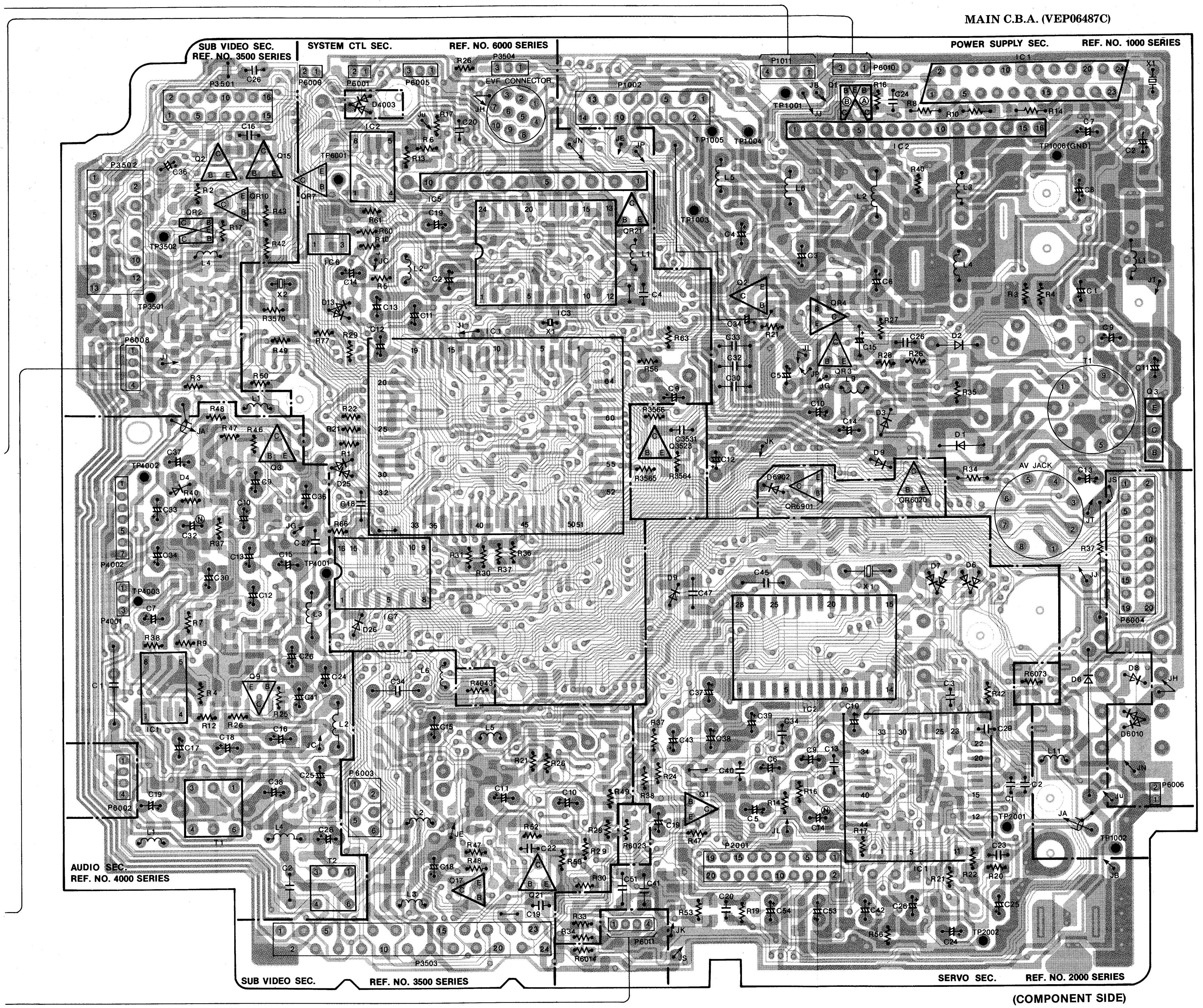
(FOIL SIDE)

SYSTEM CONTROL Section	
Transistor	
Q6001	E-15 Ⓕ
Q6003	A-15 Ⓕ
Q6004	E-15 Ⓕ
Q6005	E-15 Ⓕ
Transistor & Resistor	
QR6001	E-15 Ⓕ
QR6002	D-13 Ⓕ
QR6004	A-15 Ⓕ
QR6005	D-15 Ⓕ
QR6006	F-14 Ⓕ
QR6007	E-6 ©
QR6008	D-14 Ⓕ
QR6009	C-13 Ⓕ
QR6011	C-14 Ⓕ
QR6013	D-15 Ⓕ
QR6014	E-16 Ⓕ
QR6015	E-15 Ⓕ
QR6016	E-15 Ⓕ
QR6018	C-15 Ⓕ
QR6020	D-10 ©
QR6021	E-8 ©
QR6022	A-16 Ⓕ
QR6901	D-9 ©
Integrated Circuit	
IC6001	D-7 ©
IC6002	F-7 ©
IC6003	E-8 ©
IC6004	E-17 Ⓕ
IC6005	E-7 ©
IC6006	E-7 ©
IC6007	C-7 ©
Test Point	
TP6001	E-7 ©
Adjustment	
VR6001	F-16 Ⓕ
Connector	
P6001	F-7 ©
P6002	B-5 ©
P6003	B-7 ©
P6004	C-11 ©
P6005	F-7 ©
P6006	B-11 ©
P6008	D-5 ©
P6009	F-6 ©
P6010	F-10 ©
P6011	A-8 ©

ADDRESS INFORMATION
©...COMPONENT SIDE
Ⓕ...FOIL SIDE

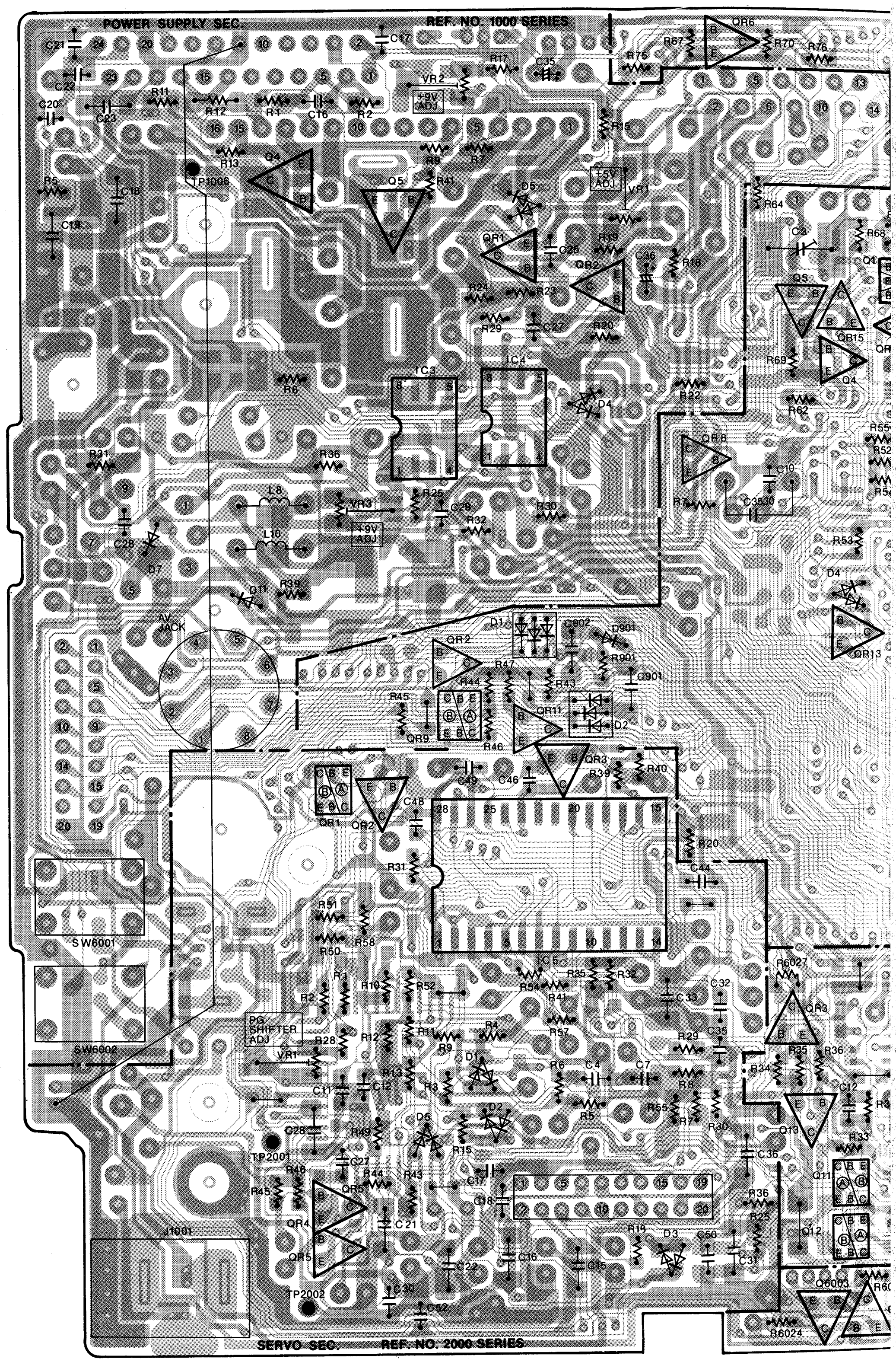
3-19. MAIN [POWER, AUDIO, SUB VIDEO, SERVO, SYSTEM CONTROL] C.B.A. (VEP06487C)

MAIN C.B.A. (VEP06487C)


SUB VIDEO SEC.
REF. NO. 3500 SERIES
SYSTEM CTL SEC.
REF. NO. 6000 SERIES
POWER SUPPLY SEC.
REF. NO. 1000 SERIES
EVF CONNECTOR
AV JACK
AUDIO SEC.
REF. NO. 4000 SERIES
SUB VIDEO SEC.
REF. NO. 3500 SERIES
SERVO SEC.
REF. NO. 2000 SERIES
TP1006 (GND)
P3501
P3502
P3503
P3504
P6001
P6002
P6003
P6004
P6005
P6006
P6008
P6009
P6010
P6011
P1002
P1011
P2001
P4001
P4002
IC1
IC2
IC3
IC5
IC6
IC7
T1
T2
X1
X2

(COMPONENT SIDE)

MAIN C.B.A. (VEP06487C)

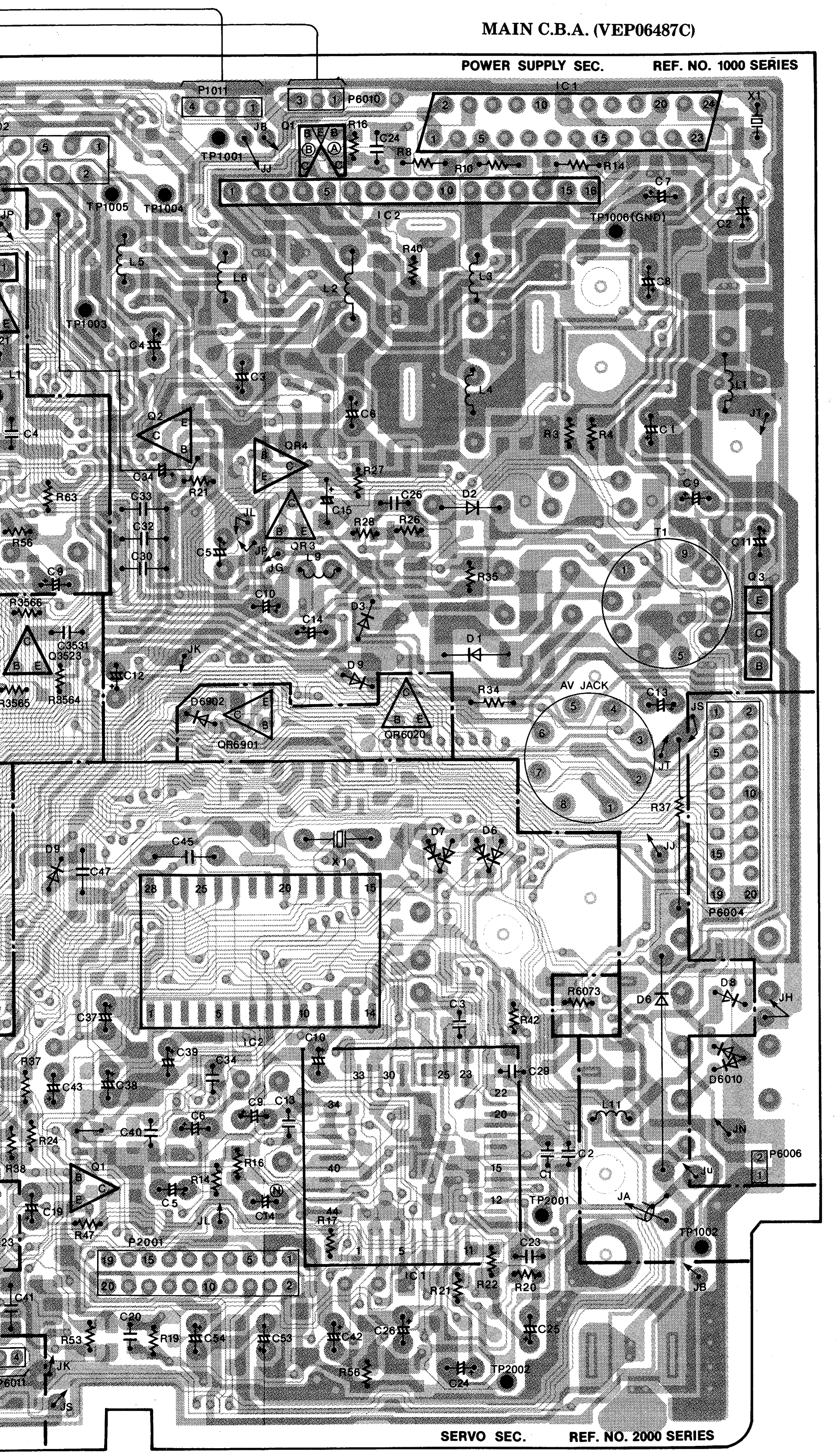

POWER SUPPLY SEC.
REF. NO. 1000 SERIES
AV JACK
SW6001
SW6002
PG SHIFTER ADJ
VR1
VR2 +9V ADJ
VR3 +9V ADJ
+5V ADJ
J1001
TP1006
TP2001
TP2002
SERVO SEC.
REF. NO. 2000 SERIES

(FOIL SIDE)

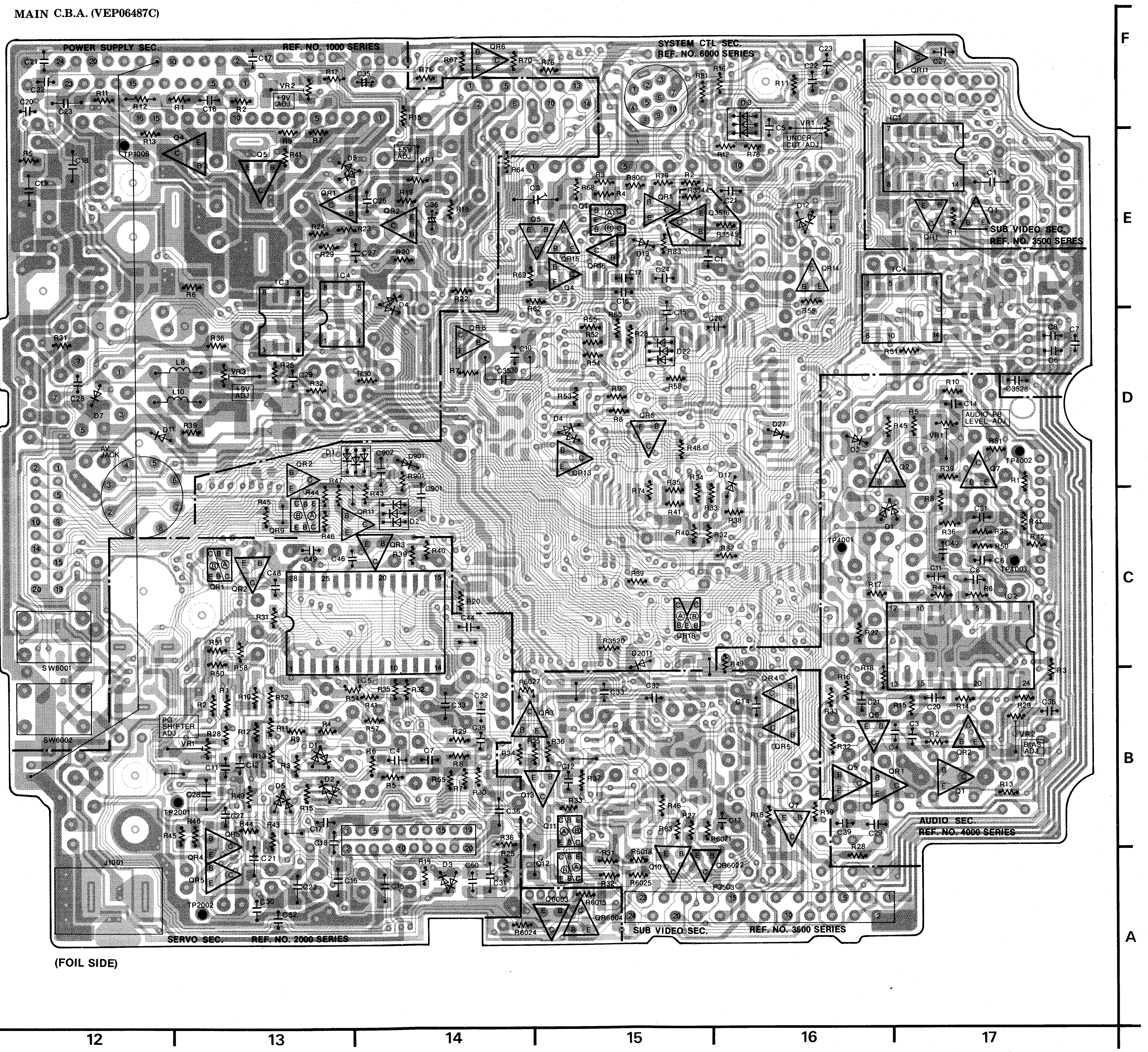
5 6 7 8 9 10 11 12 13 14

Back Page:
MAIN C.B.A. Section

TEM CONTROL] C.B.A. (VEP06487C)


MAIN C.B.A. (VEP06487C)
POWER SUPPLY SEC.
REF. NO. 1000 SERIES
AV JACK
SERVO SEC.
REF. NO. 2000 SERIES

(COMPONENT SIDE)


MAIN C.B.A. (VEP06487C)
POWER SUPPLY SEC.
REF. NO. 1000 SERIES
SYSTEM CTL SEC.
REF. NO. 6000 SERIES
SUB VIDEO SEC.
REF. NO. 3500 SERIES
AUDIO PB LEVEL ADJ
UNDER CUT ADJ
PG SHIFTER ADJ
BIAS ADJ
AUDIO SEC.
REF. NO. 4000 SERIES
SUB VIDEO SEC.
REF. NO. 3500 SERIES
SERVO SEC.
REF. NO. 2000 SERIES
F
E
D
C
B
A
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17

(FOIL SIDE)

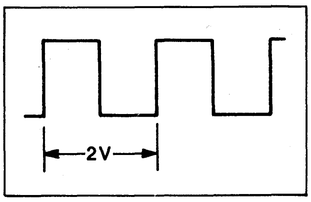
POWER SUPPLY Section		
Transistor		
Q1001	F-9	Ⓒ
Q1002	E-9	Ⓒ
Q1003	D-11	Ⓒ
Q1004	E-13	Ⓕ
Q1005	E-13	Ⓕ
Transistor & Resistor		
QR1001	E-13	Ⓕ
QR1002	E-14	Ⓕ
QR1003	D-9	Ⓒ
QR1004	E-9	Ⓒ
Integrated Circuit		
IC1001	F-10	Ⓒ
IC1002	E-10	Ⓒ
IC1003	E-13	Ⓕ
IC1004	E-13	Ⓕ
Test Point		
TP1001	F-9	Ⓒ
TP1002	B-11	Ⓒ
TP1003	E-9	Ⓒ
TP1004	F-9	Ⓒ
TP1005	F-9	Ⓒ
TP1006	E-10	Ⓒ
TP1006	E-12	Ⓕ
Adjustment		
VR1001	E-14	Ⓕ
VR1002	F-13	Ⓕ
VR1003	D-13	Ⓕ
Connector		
P1002	F-8	Ⓒ
P1011	F-9	Ⓒ

ADDRESS INFORMATION
Ⓒ...COMPONENT SIDE
Ⓕ...FOIL SIDE

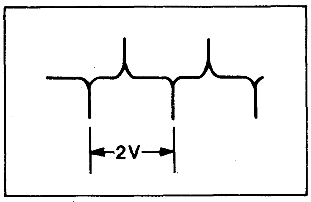
SERVO Section		
Transistor		
Q2001	B-9	Ⓒ
Transistor & Resistor		
QR2001	C-13	Ⓕ
QR2002	C-13	Ⓕ
QR2003	C-14	Ⓕ
QR2004	A-13	Ⓕ
QR2005	A-13	Ⓕ
Integrated Circuit		
IC2001	B-10	Ⓒ
IC2002	B-9	Ⓒ
IC2005	B-14	Ⓕ
Test Point		
TP2001	B-10	Ⓒ
TP2001	B-13	Ⓕ
TP2002	A-10	Ⓒ
TP2002	A-13	Ⓕ
Adjustment		
VR2001	B-13	Ⓕ
Connector		
P2001	B-9	Ⓒ

ADDRESS INFORMATION
Ⓒ...COMPONENT SIDE
Ⓕ...FOIL SIDE

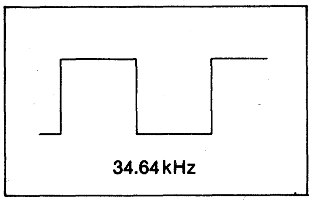
SERVO CIRCUIT TP (Test Point) WAVE FORM (REF No. 2000 Series)



TP2001
2V/10msec. div. 4Vp-p



TP2002 PLAY
0.5V/10msec. div. 1.8Vp-p



TP2003/TP2004 REC/PLAY
2V/10μsec. div. 5Vp-p

AUDIO Section		
Transistor		
Q4001	B-17	Ⓕ
Q4002	D-17	Ⓕ
Q4003	D-6	Ⓒ
Q4005	B-16	Ⓕ
Q4006	B-16	Ⓕ
Q4007	D-17	Ⓕ
Q4009	C-6	Ⓒ
Transistor & Resistor		
QR4001	B-17	Ⓕ
QR4002	B-17	Ⓕ
Integrated Circuit		
IC4001	B-6	Ⓒ
IC4002	C-17	Ⓕ
Test Point		
TP4001	C-6	Ⓒ
TP4001	C-16	Ⓕ
TP4002	D-6	Ⓒ
TP4002	D-17	Ⓕ
TP4003	C-5	Ⓒ
TP4003	C-17	Ⓕ
Adjustment		
VR4001	D-17	Ⓕ
VR4002	B-17	Ⓕ
Connector		
P4001	C-5	Ⓒ
P4002	C-5	Ⓒ

ADDRESS INFORMATION
Ⓒ...COMPONENT SIDE
Ⓕ...FOIL SIDE

SUB VIDEO Section		
Transistor		
Q3501	E-17	Ⓕ
Q3502	E-6	Ⓒ
Q3507	B-16	Ⓕ
Q3510	A-15	Ⓕ
Q3511	B-15	Ⓕ
Q3512	A-15	Ⓕ
Q3513	B-15	Ⓕ
Q3515	E-6	Ⓒ
Q3517	A-7	Ⓒ
Q3521	A-8	Ⓒ
Q3523	D-8	Ⓒ
Transistor & Resistor		
QR3501	E-17	Ⓕ
QR3502	E-6	Ⓒ
QR3503	B-15	Ⓕ
QR3504	B-16	Ⓕ
QR3505	B-16	Ⓕ
QR3510	E-6	Ⓒ
QR3511	F-17	Ⓕ
Integrated Circuit		
IC3501	F-17	Ⓕ
Test Point		
TP3501	E-6	Ⓒ
TP3502	E-6	Ⓒ
Connector		
P3501	F-6	Ⓒ
P3502	E-5	Ⓒ
P3503	A-7	Ⓒ
P3504	F-8	Ⓒ

ADDRESS INFORMATION
Ⓒ...COMPONENT SIDE
Ⓕ...FOIL SIDE

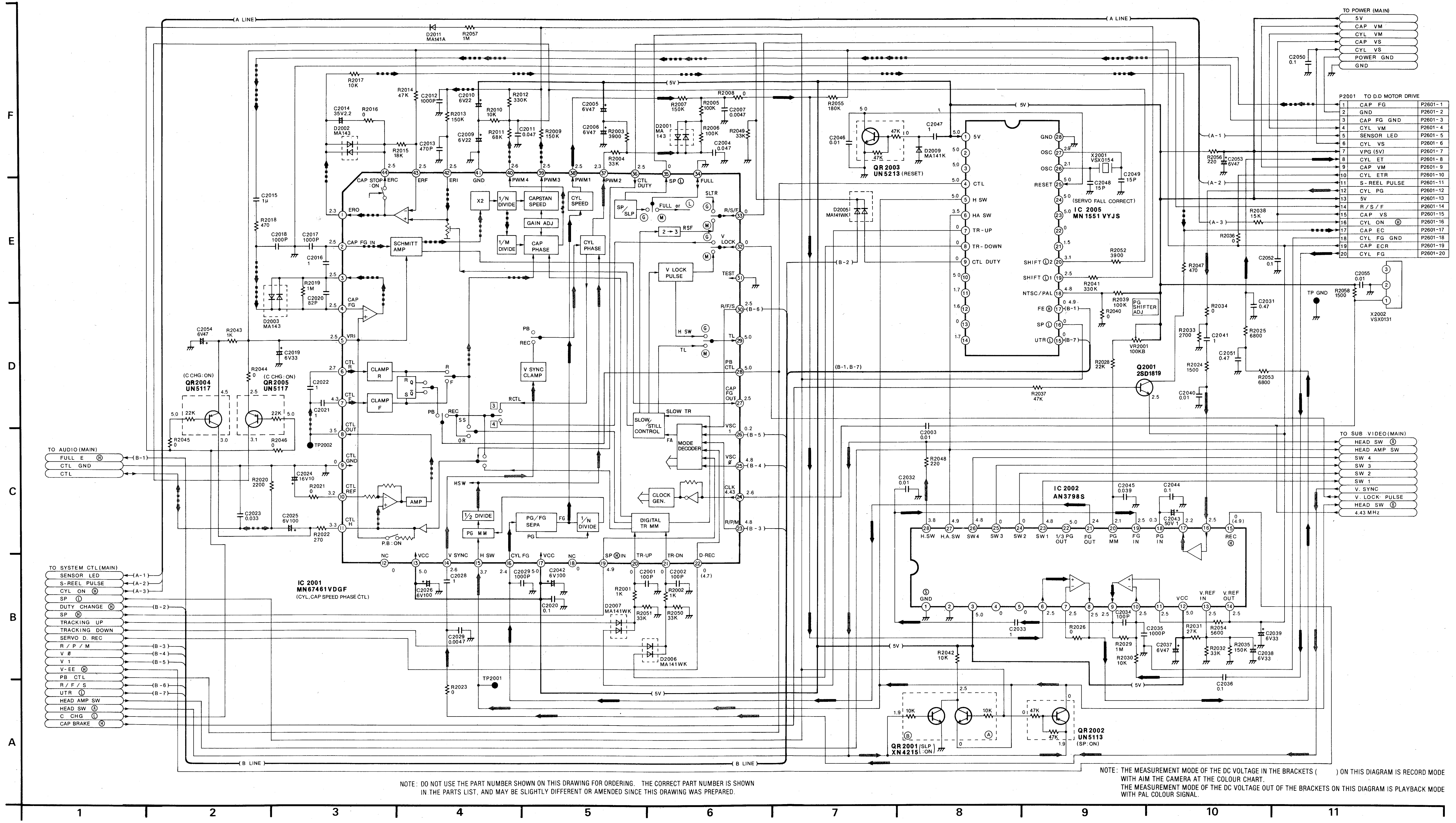
3-20. SERVO SCHEMATIC DIAGRAM

CYLINDER SERVO PHASE LOOP

CYLINDER SERVO SPEED LOOP

CAPSTAN SERVO PHASE LOOP

CAPSTAN SERVO SPEED LOOP


TO POWER (MAIN)
5V
CAP VM
CYL VM
CAP VS
CYL VS
POWER GND
GND
P2001 TO D.D MOTOR DRIVE
1 CAP FG P2601-1
2 GND P2601-2
3 CAP FG GND P2601-3
4 CYL VM P2601-4
5 SENSOR LED P2601-5
6 CYL VS P2601-6
7 VPG (5V) P2601-7
8 CYL ET P2601-8
9 CAP VM P2601-9
10 CYL ETR P2601-10
11 S-REEL PULSE P2601-11
12 CYL PG P2601-12
13 5V P2601-13
14 R/S/F P2601-14
15 CAP VS P2601-15
16 CYL ON Ⓗ P2601-16
17 CAP EC P2601-17
18 CYL FG GND P2601-18
19 CAP ECR P2601-19
20 CYL FG P2601-20
TO AUDIO (MAIN)
FULL E Ⓗ
CTL GND
CTL
TO SYSTEM CTL (MAIN)
SENSOR LED
S-REEL PULSE
CYL ON Ⓗ
SP Ⓛ
DUTY CHANGE Ⓗ
SP Ⓗ
TRACKING UP
TRACKING DOWN
SERVO D. REC
R / P / M
V Ø
V 1
V-EE Ⓗ
PB CTL
R / F / S
UTR Ⓛ
HEAD AMP SW
HEAD SW Ⓐ
C CHG Ⓛ
CAP BRAKE Ⓗ
TO SUB VIDEO (MAIN)
HEAD SW Ⓐ
HEAD AMP SW
SW 4
SW 3
SW 2
SW 1
V. SYNC
V. LOCK PULSE
HEAD SW Ⓑ
4.43 MHz
A LINE
B LINE
IC 2001
MN67461VDGF
(CYL,CAP SPEED PHASE CTL)
IC 2005
MN1551VYJS
IC 2002
AN3798S
QR2001 XN4215 (SLP) (ON)
QR2002 UN5113 (SP:ON)
QR2003 UN5213 (RESET)
QR2004 UN5117 (C CHG:ON)
QR2005 UN5117 (C CHG:ON)
Q2001 2SD1819
X2001 VSX0154
X2002 VSX0131
TP2001
TP2002
TP GND
SCHMITT AMP
CAP FG IN
CAP STOP:ON
ERC
ERF
ERI
ERO
GND
PWM4
PWM3
PWM1
PWM2
CTL DUTY
SP Ⓛ
FULL
X2
1/N DIVIDE
CAPSTAN SPEED
CYL SPEED
GAIN ADJ
1/M DIVIDE
CAP PHASE
CYL PHASE
SP/SLP
FULL or Ⓛ
SLTR
R/S/F
RSF
2→3
V LOCK
V LOCK PULSE
TEST
R/F/S
H SW
TL
PB CTL
CAP FG OUT
VSC
CLK 4.43
R/P/M
CLAMP R
CLAMP F
V SYNC CLAMP
RCTL
SLOW TR
SLOW/STILL CONTROL
MODE DECODER
CLOCK GEN.
DIGITAL TR MM
AMP
HSW
1/2 DIVIDE
PG MM
PG/FG SEPA
1/N DIVIDE
P.B:ON
VRI
CTL IN
CTL OUT
CTL GND
CTL REF
CTL H
NC
VCC
V SYNC
H SW
CYL FG
SP Ⓗ IN
TR-UP
TR-DN
D-REC
5V
CTL
H SW
HA SW
TR-UP
TR-DOWN
CTL DUTY
OSC
RESET
(SERVO FALL CORRECT)
SHIFT Ⓛ2
SHIFT Ⓛ1
NTSC/PAL
FE Ⓗ
SP Ⓛ
UTR Ⓛ
PG SHIFTER ADJ
VR2001 100KB
H.SW
H.A.SW
SW4
SW3
SW2
SW1
1/3 PG OUT
FG OUT
PG MM
FG IN
PG IN
REC Ⓗ
Ⓢ GND
VCC
V.REF IN
V.REF OUT

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH AIM THE CAMERA AT THE COLOUR CHART.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

3-21. POWER SUPPLY/AUDIO/SUB VIDEO SCHEMATIC DIAGRAM

VIDEO MAIN SIGNAL PATH IN REC MODE

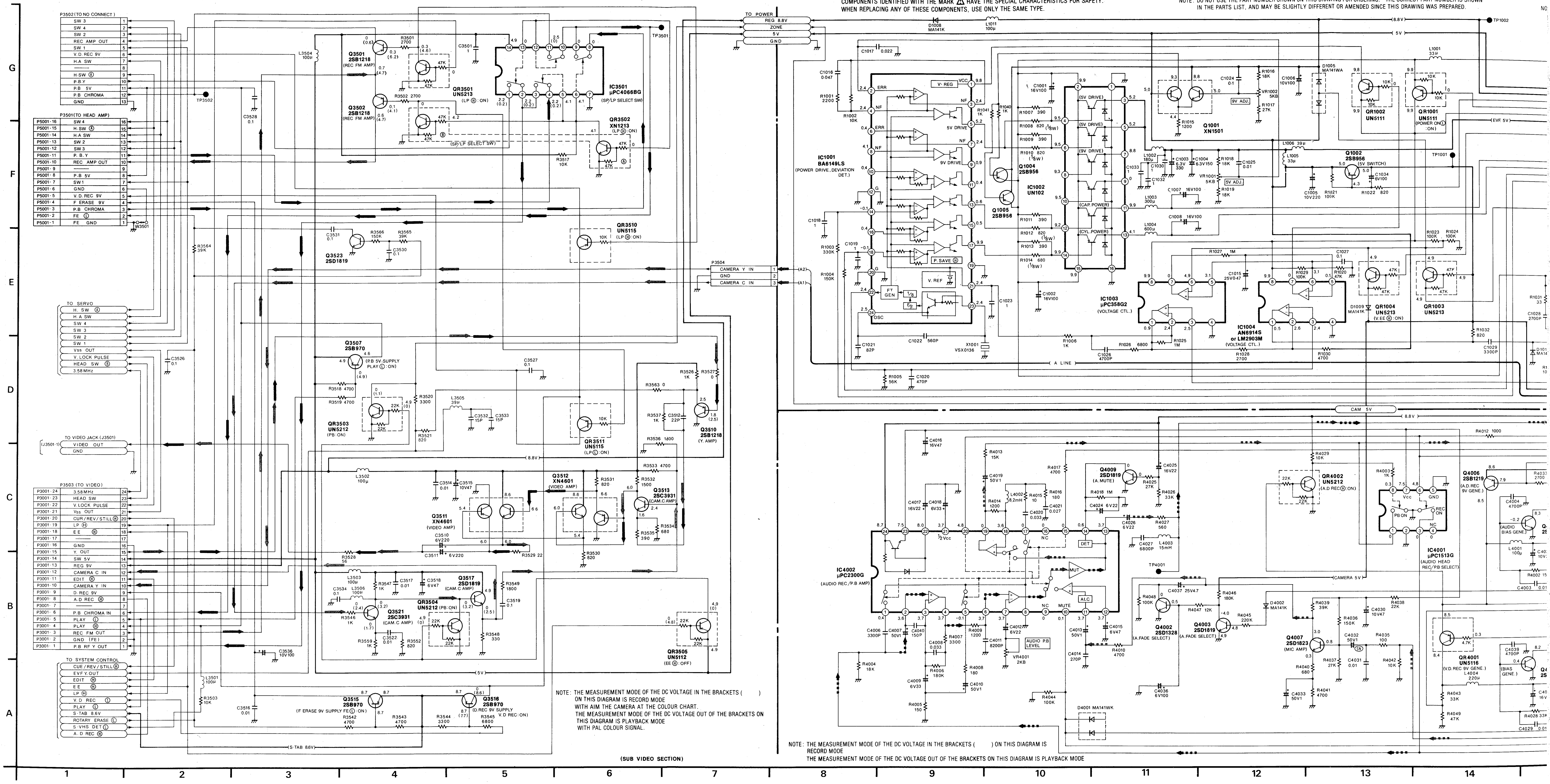
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE

AUDIO MAIN SIGNAL PATH IN REC MODE

AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.



P3502 (TO NO CONNECT)
P3501 (TO HEAD AMP)
TO SERVO
TO VIDEO JACK (J3501)
P3503 (TO VIDEO)
TO SYSTEM CONTROL
Q3501 2SB1218 (REC FM AMP)
Q3502 2SB1218 (REC FM AMP)
QR3501 UN5213 (LP Ⓗ:ON)
IC3501 µPC4066BG (SP/LP SELECT SW)
QR3502 XN1213 (LP Ⓗ:ON)
QR3510 UN5115 (LP Ⓗ:ON)
Q3523 2SD1819
Q3507 2SB970 (P.B 5V SUPPLY PLAY Ⓛ:ON)
QR3503 UN5212 (PB:ON)
QR3511 UN5115 (LP Ⓛ:ON)
Q3510 2SB1218 (Y. AMP)
Q3511 XN4601 (VIDEO AMP)
Q3512 XN4601 (VIDEO AMP)
Q3513 2SC3931 (CAM.C AMP)
Q3517 2SD1819 (CAM.C AMP)
Q3521 2SC3931 (CAM.C AMP)
QR3504 UN5212 (PB:ON)
QR3505 UN5112 (EE Ⓗ:OFF)
Q3515 2SB970 (F ERASE 9V SUPPLY FE Ⓛ:ON)
Q3516 2SB970 (D.REC 9V SUPPLY V.D REC:ON)
P3504 CAMERA Y IN GND CAMERA C IN
TO POWER REG 8.8V ZONE 5V GND
IC1001 BA6149LS (POWER DRIVE, DEVIATION DET.)
IC1002 UN102
Q1004 2SB956
Q1005 2SB956
Q1001 XN1501
QR1002 UN5111
QR1001 UN5111 (POWER ON Ⓛ:ON)
Q1002 2SB956 (5V SWITCH)
IC1003 µPC358G2 (VOLTAGE CTL.)
IC1004 AN6914S or LM2903M (VOLTAGE CTL.)
QR1004 UN5213 (V.EE Ⓗ:ON)
QR1003 UN5213
IC4002 µPC2300G (AUDIO REC/P.B AMP)
Q4009 2SD1819 (A.MUTE)
QR4002 UN5212 (A.D REC Ⓗ:ON)
Q4006 2SB1219 (A.D REC 9V GENE.)
IC4001 µPC1513G (AUDIO HEAD REC/PB SELECT)
Q4002 2SD1328 (A.FADE SELECT)
Q4003 2SD1819 (A.FADE SELECT)
Q4007 2SD1823 (MIC AMP)
QR4001 UN5116 (V.D.REC 9V GENE.)
D4001 MA141WK
VR4001 2KB
CAM 5V
CAMERA 5V
A LINE
S-TAB 8.6V
(SUB VIDEO SECTION)
A B C D E F G
1 2 3 4 5 6 7 8 9 10 11 12 13 14

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH AIM THE CAMERA AT THE COLOUR CHART.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE

VIDEO MAIN SIGNAL PATH IN REC MODE

VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE

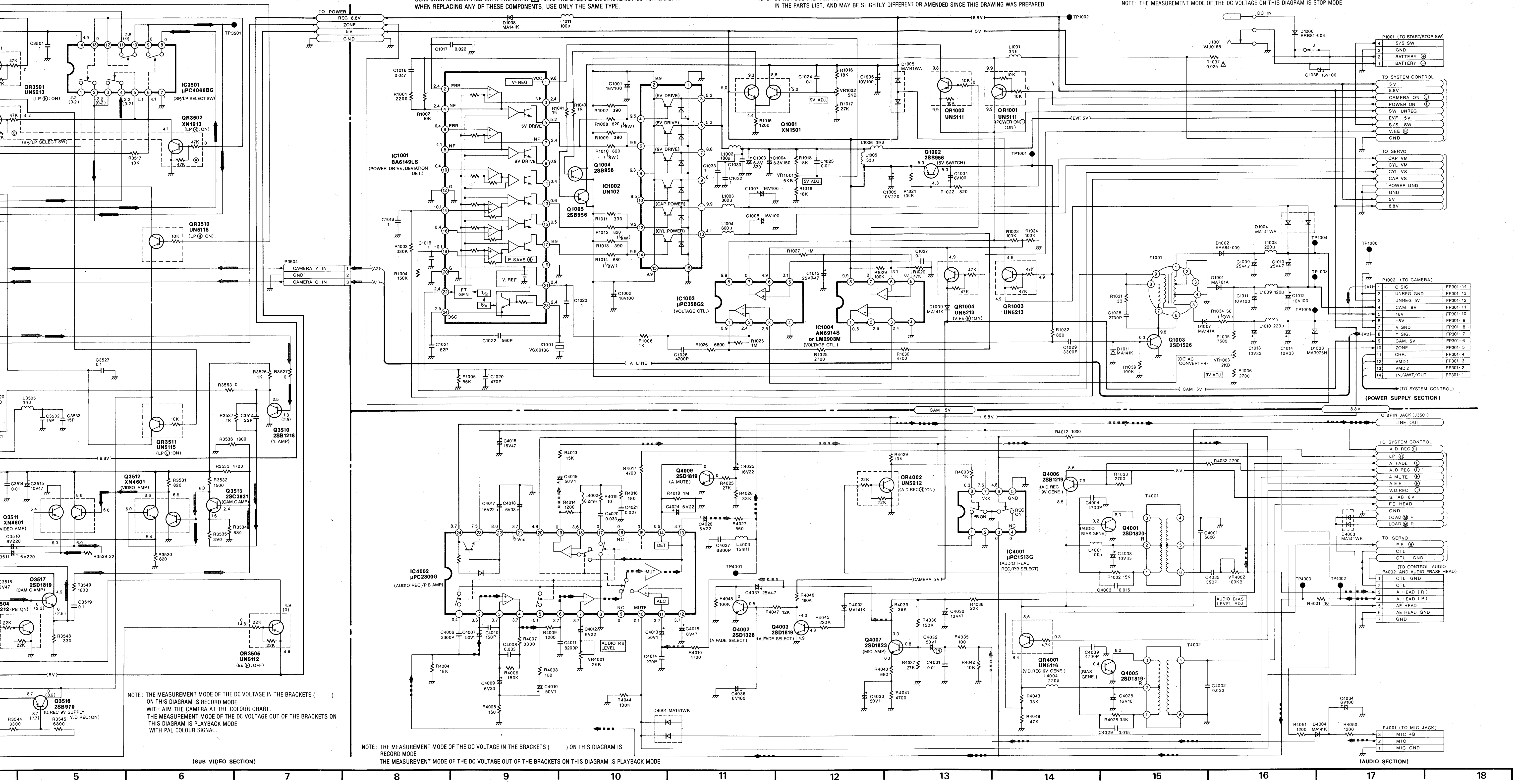
AUDIO MAIN SIGNAL PATH IN REC MODE

AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

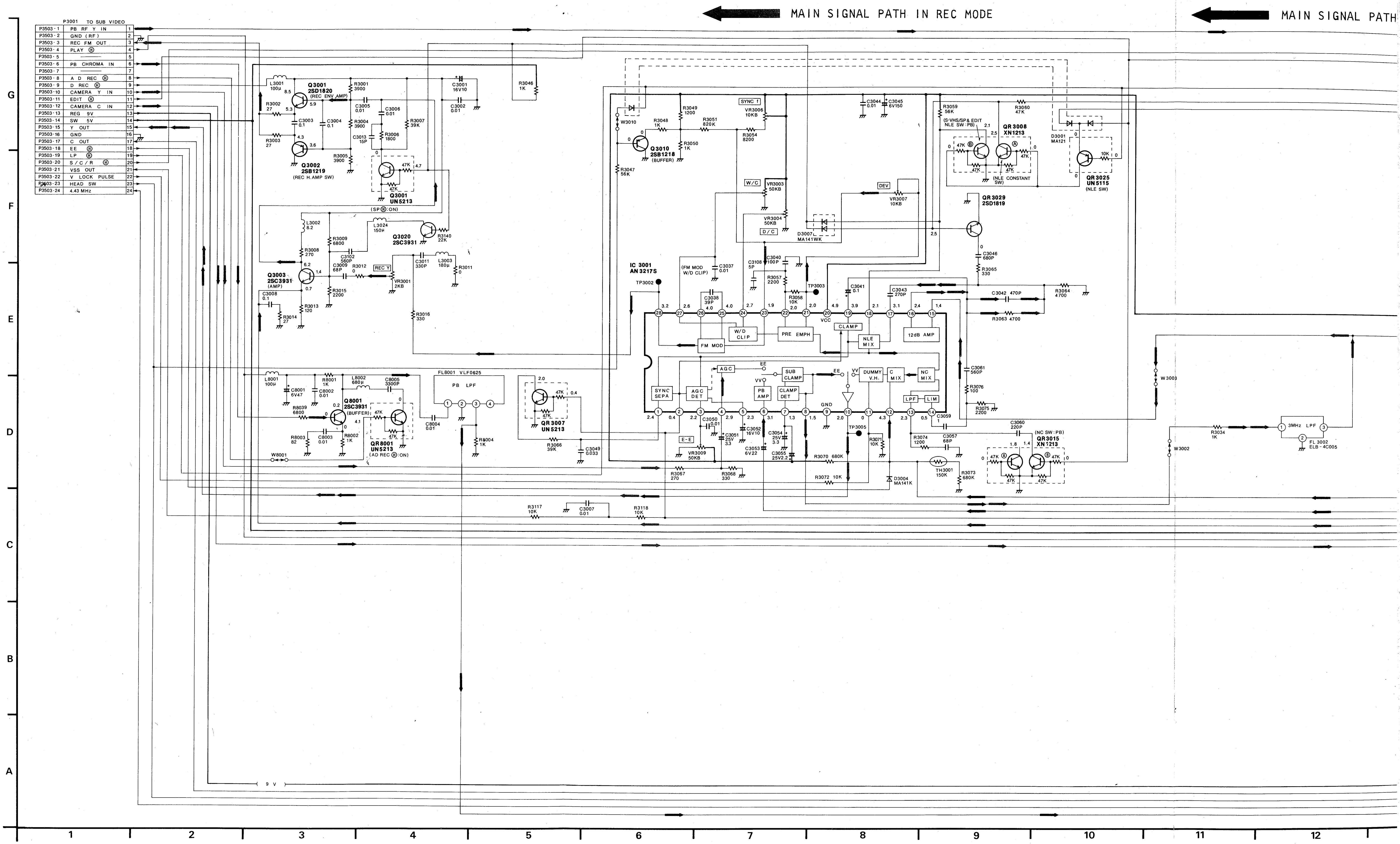

TO POWER
REG 8.8V
ZONE
5V
GND
TP3501
IC3501
μPC4066BG
(SP/LP SELECT SW)
QR3501
UN5213
QR3502
XN1213
QR3510
UN5115
P3504
CAMERA Y IN
GND
CAMERA C IN
QR3511
UN5115
Q3510
2SB1218
(Y. AMP)
Q3512
XN4601
(VIDEO AMP)
Q3513
2SC3931
(CAM.C AMP)
Q3511
XN4601
Q3517
2SD1819
(CAM.C AMP)
QR3505
UN5112
(EE Ⓗ:OFF)
Q3516
2SB970
(D.REC 9V SUPPLY)
(SUB VIDEO SECTION)
IC1001
BA6149LS
(POWER DRIVE, DEVIATION DET.)
V- REG
5V DRIVE
9V DRIVE
P. SAVE
V. REF
FT GEN
OSC
X1001
VSX0136
A LINE
Q1004
2SB956
Q1005
2SB956
IC1002
UN102
(5V DRIVE)
(9V DRIVE)
(CAP. POWER)
(CYL POWER)
Q1001
XN1501
9V ADJ
5V ADJ
IC1003
μPC358G2
(VOLTAGE CTL.)
IC1004
AN6914S
or LM2903M
(VOLTAGE CTL.)
D1005
MA141WA
QR1002
UN5111
QR1001
UN5111
(POWER ON Ⓛ :ON)
Q1002
2SB956
(5V SWITCH)
QR1004
UN5213
(V.EE Ⓗ:ON)
QR1003
UN5213
TP1001
TP1002
DC IN
D1006
ERB81-004
J1001
VJJ0165
P1001 (TO START/STOP SW)
S/S SW
GND
BATTERY ⊕
BATTERY ⊖
TO SYSTEM CONTROL
5V
8.8V
CAMERA ON Ⓛ
POWER ON Ⓛ
SW UNREG
EVF 5V
S/S SW
V.EE Ⓗ
GND
TO SERVO
CAP VM
CYL VM
CYL VS
CAP VS
POWER GND
GND
5V
8.8V
T1001
Q1003
2SD1526
(DC-AC CONVERTER)
TP1003
TP1004
TP1005
TP1006
P1002 (TO CAMERA)
C SIG
UNREG GND
UNREG 5V
CAM. 9V
16V
-8V
V.GND
Y SIG
CAM. 5V
ZONE
CHR.
VMD 1
VMD 2
IN/AWT/OUT
FP301-14
FP301-13
FP301-12
FP301-11
FP301-10
FP301-9
FP301-8
FP301-7
FP301-6
FP301-5
FP301-4
FP301-3
FP301-2
FP301-1
(TO SYSTEM CONTROL)
(POWER SUPPLY SECTION)
CAM 5V
8.8V
TO 8PIN JACK (J3501)
LINE OUT
IC4002
μPC2300G
(AUDIO REC/P.B AMP)
DET
MUT
ALC
MUTE
AUDIO P.B LEVEL
Q4009
2SD1819
(A. MUTE)
Q4002
2SD1328
(A.FADE SELECT)
Q4003
2SD1819
(A.FADE SELECT)
Q4007
2SD1823
(MIC AMP)
QR4002
UN5212
(A.D REC Ⓗ:ON)
IC4001
μPC1513G
(AUDIO HEAD REC/PB SELECT)
Q4006
2SB1219
(A.D.REC 9V GENE.)
Q4001
2SD1820-R
(AUDIO BIAS GENE.)
T4001
AUDIO BIAS LEVEL ADJ
QR4001
UN5116
(V.D.REC 9V GENE.)
Q4005
2SD1819-R
(BIAS GENE.)
T4002
D4001 MA141WK
D4003
MA141WK
TP4001
TP4002
TP4003
TO SYSTEM CONTROL
A.D REC Ⓗ
LP Ⓗ
A. FADE Ⓛ
A.D REC Ⓛ
A. MUTE Ⓗ
A.EE Ⓗ
V.D.REC Ⓛ
S. TAB 8V
FE HEAD
GND
LOAD Ⓜ F
LOAD Ⓜ R
TO SERVO
FE Ⓗ
CTL
CTL GND
(TO CONTROL, AUDIO
P4002 AND AUDIO ERASE HEAD)
CTL GND
CTL
A. HEAD (R)
A. HEAD (P)
AE HEAD
AE HEAD GND
GND
P4001 (TO MIC JACK)
MIC +B
MIC
MIC GND
(AUDIO SECTION)
5
6
7
8
9
10
11
12
13
14
15
16
17
18

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH AIM THE CAMERA AT THE COLOUR CHART.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE

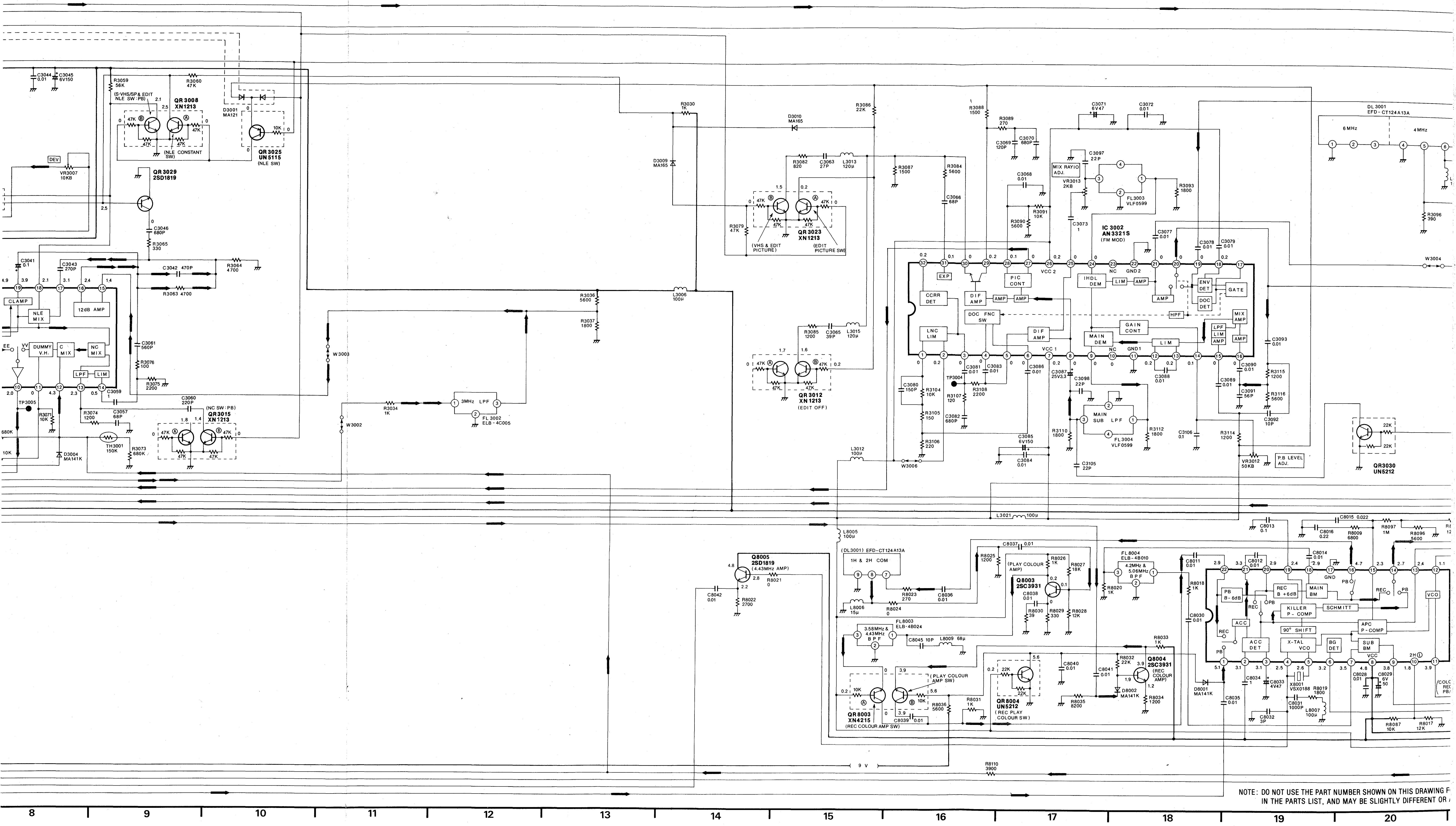
Next Page:
LUMINANCE & CHROMINANCE Section

3-22. LUMINANCE & CHROMINANCE SCHEMATIC DIAGRAM


MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH
P3001 TO SUB VIDEO
P3503-1 PB RF Y IN 1
P3503-2 GND (RF) 2
P3503-3 REC FM OUT 3
P3503-4 PLAY Ⓗ 4
P3503-5 5
P3503-6 PB CHROMA IN 6
P3503-7 7
P3503-8 A D REC Ⓗ 8
P3503-9 D REC Ⓗ 9
P3503-10 CAMERA Y IN 10
P3503-11 EDIT Ⓗ 11
P3503-12 CAMERA C IN 12
P3503-13 REG 9V 13
P3503-14 SW 5V 14
P3503-15 Y OUT 15
P3503-16 GND 16
P3503-17 C OUT 17
P3503-18 EE Ⓗ 18
P3503-19 LP Ⓗ 19
P3503-20 S/C/R Ⓗ 20
P3503-21 VSS OUT 21
P3503-22 V LOCK PULSE 22
P3503-23 HEAD SW 23
P3503-24 4.43 MHz 24
Q3001 2SD1820 (REC ENV AMP)
Q3002 2SB1219 (REC H.AMP SW)
Q3001 UN5213
(SP Ⓗ: ON)
Q3020 2SC3931
Q3003 2SC3931 (AMP)
REC Y
VR3001 2KB
Q8001 2SC3931 (BUFFER)
QR8001 UN5213 (AD REC Ⓗ: ON)
W8001
FL8001 VLF0625
PB LPF
QR3007 UN5213
R3117 10K
C3007 0.01
R3118 10K
9 V
W3010
Q3010 2SB1218 (BUFFER)
SYNC T
VR3006 10KB
W/C
VR3003 50KB
VR3004 50KB
D/C
D3007 MA141WK
DEV
VR3007 10KB
IC 3001 AN3217S
TP3002
TP3003
TP3005
(FM MOD W/D CLIP)
FM MOD
W/D CLIP
PRE EMPH
CLAMP
NLE MIX
12dB AMP
VCC
SYNC SEPA
AGC DET
AGC
EE
VV
SUB CLAMP
PB AMP
CLAMP DET
GND
DUMMY V.H.
C MIX
NC MIX
LPF
LIM
E-E
VR3009 50KB
TH3001 150K
D3004 MA141K
R3059 56K (S-VHS/SP & EDIT NLE SW: PB)
QR3008 XN1213
(NLE CONSTANT SW)
D3001 MA121
QR3025 UN5115 (NLE SW)
QR3029 2SD1819
(NC SW: PB)
QR3015 XN1213
W3003
W3002
R3034 1K
3MHz LPF
FL3002 ELB-4C005
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12

IGNAL PATH IN REC MODE

MAIN SIGNAL PATH IN PLAYBACK MODE


QR3008 XN1213
(S-VHS/SP & EDIT NLE SW : PB)
(NLE CONSTANT SW)
QR3025 UN5115 (NLE SW)
D3001 MA121
QR3029 2SD1819
VR3007 10KB
DEV
CLAMP
NLE MIX
12dB AMP
DUMMY V.H.
C MIX
NC MIX
LPF
LIM
TP3005
TH3001 150K
D3004 MA141K
QR3015 XN1213 (NC SW : PB)
W3003
W3002
3MHz LPF
FL3002 ELB-4C005
L3006 100µ
D3010 MA165
D3009 MA165
QR3023 XN1213
(VHS & EDIT PICTURE)
(EDIT PICTURE SW)
QR3012 XN1213 (EDIT OFF)
L3012 100µ
W3006
IC3002 AN3321S (FM MOD)
EXP
CCRR DET
LNC LIM
DIF AMP
AMP
DOC FNC SW
PIC CONT
VCC 2
IHDL DEM
LIM
NC
GND2
ENV DET
GATE
DOC DET
HPF
MIX AMP
LPF LIM AMP
GAIN CONT
MAIN DEM
VCC 1
GND1
MIX RAYIO ADJ.
VR3013 2KB
FL3003 VLF0599
MAIN SUB LPF
FL3004 VLF0599
TP3004
VR3012 50KB
P.B LEVEL ADJ.
DL3001 EFD-CT124A13A
6MHz
4MHz
W3004
QR3030 UN5212
L3021 100µ
L8005 100µ
Q8005 2SD1819 (4.43MHz AMP)
(DL3001) EFD-CT124A13A
1H & 2H COM
L8006 15µ
FL8003 ELB-4B024
3.58MHz & 4.43MHz BPF
L8009 68µ
QR8003 XN4215 (REC COLOUR AMP SW)
(PLAY COLOUR AMP SW)
(PLAY COLOUR AMP)
Q8003 2SC3931
QR8004 UN5212 (REC PLAY COLOUR SW)
Q8004 2SC3931 (REC COLOUR AMP)
D8002 MA141K
FL8004 ELB-4B010
4.2MHz & 5.06MHz BPF
D8001 MA141K
PB B-6dB
REC B+6dB
MAIN BM
KILLER P-COMP
SCHMITT
ACC
90° SHIFT
ACC DET
X-TAL VCO
BG DET
SUB BM
APC P-COMP
VCO
X8001 VSX0188
L8007 100µ
9 V
R8110 3900
8
9
10
11
12
13
14
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16
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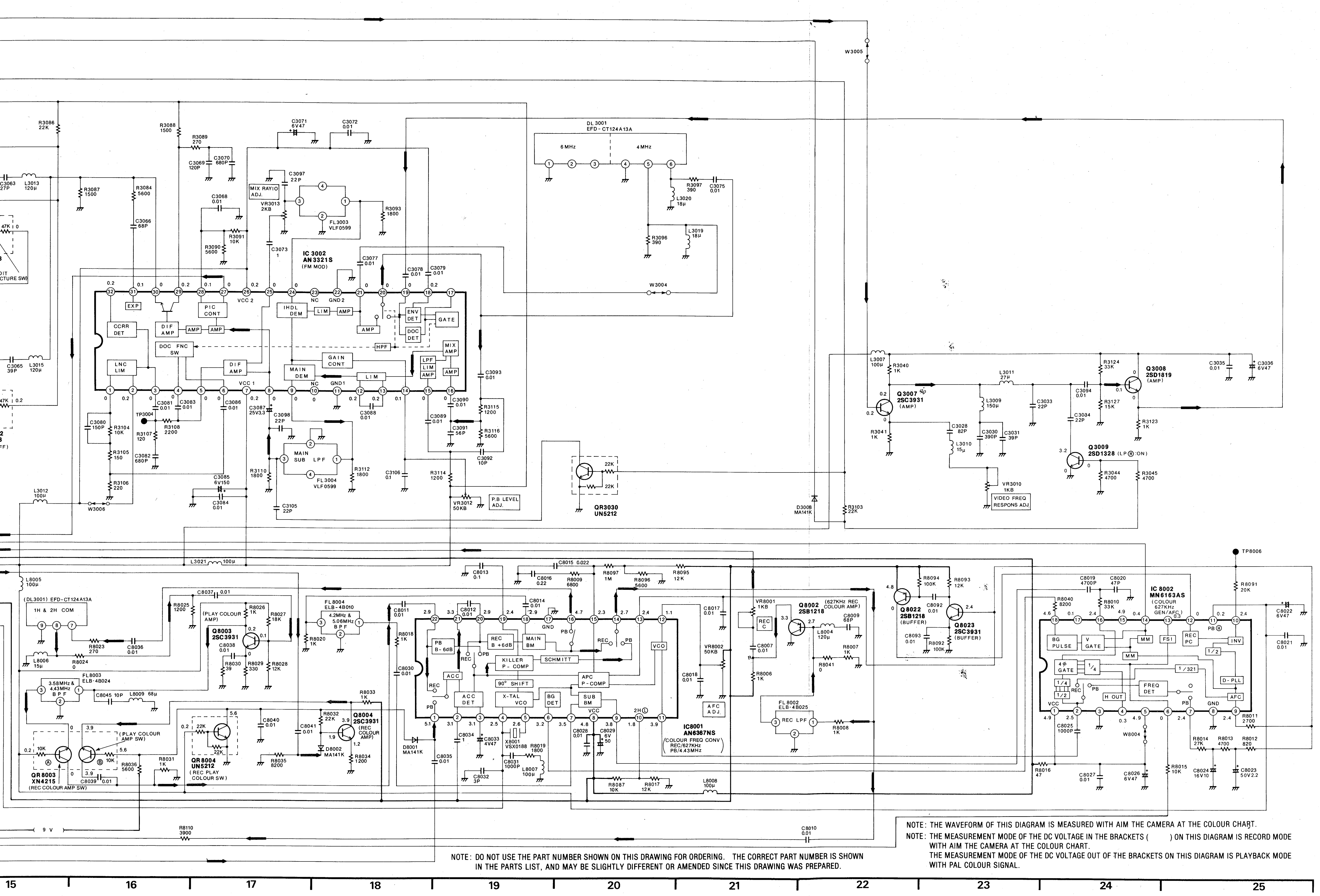
18
19
20

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING F
IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR

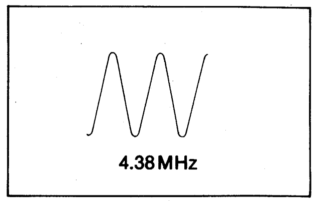

W3005
R3086 22K
R3088 1500
R3089 270
C3069 120P
C3070 680P
C3071 6V47
C3072 0.01
DL3001 EFD-CT124A13A
6 MHz
4 MHz
R3097 390
C3075 0.01
L3020 18μ
R3096 390
L3019 18μ
W3004
C3063 27P
L3013 120μ
R3087 1500
R3084 5600
C3066 68P
C3068 0.01
R3091 10K
R3090 5600
MIX RAYIO ADJ.
VR3013 2KB
C3097 22P
FL3003 VLF0599
R3093 1800
C3073 1
IC 3002
AN3321S
(FM MOD)
C3077 0.01
C3078 0.01
C3079 0.01
VCC 2
NC
GND 2
EXP
PIC CONT
IHDL DEM
LIM
AMP
ENV DET
GATE
DOC DET
CCRR DET
DIF AMP
DOC FNC SW
HPF
LNC LIM
GAIN CONT
MIX AMP
LPF LIM AMP
MAIN DEM
VCC 1
GND1
C3065 39P
L3015 120μ
TP3004
C3080 150P
R3104 10K
C3081 0.01
R3108 2200
C3083 0.01
C3086 0.01
C3087 25V3.3
C3098 22P
C3088 0.01
C3089 0.01
C3090 0.01
C3093 0.01
R3115 1200
R3116 5600
C3091 56P
C3092 10P
R3107 120
R3105 150
C3082 680P
R3106 220
C3085 6V150
C3084 0.01
MAIN SUB LPF
FL3004 VLF0599
R3110 1800
R3112 1800
C3106 0.1
R3114 1200
VR3012 50KB
P.B LEVEL ADJ.
C3105 22P
L3012 100μ
W3006
QR3030 UN5212
22K
D3008 MA141K
R3103 22K
L3007 100μ
R3040 1K
Q3007 2SC3931 (AMP)
R3041 1K
C3028 82P
L3010 15μ
L3009 150μ
C3030 390P
C3031 39P
L3011 27μ
C3033 22P
VR3010 1KB
VIDEO FREQ RESPONS ADJ.
C3094 0.01
C3084 22P
R3124 33K
R3127 15K
Q3008 2SD1819 (AMP)
R3123 1K
Q3009 2SD1328 (LP ON)
R3044 4700
R3045 4700
C3035 0.01
C3036 6V47
L3021 100μ
L8005 100μ
(DL3001) EFD-CT124A13A
1H & 2H COM
R8023 270
C8036 0.01
R8024 0
L8006 15μ
FL8003 ELB-4B024
3.58MHz & 4.43MHz B P F
C8045 10P
L8009 68μ
C8037 0.01
R8025 1200
R8026 1K
(PLAY COLOUR AMP)
Q8003 2SC3931
R8027 18K
C8038 0.01
R8030 39
R8029 330
R8028 12K
(PLAY COLOUR AMP SW)
QR8003 XN4215
(REC COLOUR AMP SW)
R8036 5600
C8039 0.01
R8031 1K
QR8004 UN5212
(REC PLAY COLOUR SW)
C8040 0.01
R8035 8200
C8041 0.01
R8032 22K
Q8004 2SC3931 (REC COLOUR AMP)
R8033 1K
D8002 MA141K
R8034 1200
FL8004 ELB-4B010
4.2MHz & 5.06MHz B P F
R8020 1K
C8011 0.01
R8018 1K
C8030 0.01
C8013 0.1
C8012 0.01
C8014 0.01
C8015 0.022
C8016 0.22
R8009 6800
R8097 1M
R8096 5600
R8095 12K
PB B-6dB
REC B +6dB
MAIN BM
GND
KILLER P-COMP
SCHMITT
ACC
90° SHIFT
APC P-COMP
ACC DET
X-TAL VCO
BG DET
SUB BM
VCO
VCC
2H
C8017 0.01
VR8002 50KB
C8018 0.01
AFC ADJ.
IC8001
AN6367NS
(COLOUR FREQ CONV REC/627KHz PB/4.43MHz)
D8001 MA141K
C8035 0.01
C8034 1
C8033 4V47
X8001 VSX0188
C8031 1000P
R8019 1800
L8007 100μ
C8032 3P
C8028 0.01
C8029 6V 50
R8087 10K
R8017 12K
L8008 100μ
VR8001 1KB
REC C
C8007 0.01
R8006 1K
Q8002 2SB1218 (627KHz REC COLOUR AMP)
C8009 68P
L8004 120μ
R8007 1K
R8041 0
FL8002 ELB-4B025
REC LPF
R8008 1K
R8094 100K
R8093 12K
C8092 0.01
Q8022 2SB1218 (BUFFER)
Q8023 2SC3931 (BUFFER)
C8093 0.01
R8092 100K
TP8006
C8019 4700P
C8020 47P
R8040 8200
R8010 33K
IC 8002
MN6163AS
(COLOUR 627KHz GEN/AFC)
R8091 20K
C8022 6V47
C8021 0.01
BG PULSE
V GATE
MM
FSI
REC PC
INV
1/2
4φ GATE
1/4
1/321
D-PLL
FREQ DET
H OUT
AFC
C8025 1000P
W8004
R8011 2700
R8014 27K
R8013 4700
R8012 820
R8016 47
C8027 0.01
C8026 6V47
R8015 10K
C8024 16V10
C8023 50V2.2
9 V
R8110 3900
C8010 0.01
15
16
17
18
19
20
21
22
23
24
25

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

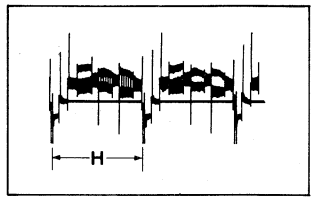
NOTE: THE WAVEFORM OF THIS DIAGRAM IS MEASURED WITH AIM THE CAMERA AT THE COLOUR CHART.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH AIM THE CAMERA AT THE COLOUR CHART.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

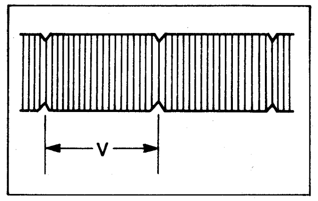
LUMINANCE & CHROMINANCE CIRCUIT TP (Test Point) WAVE FORM (REF No. 3000 Series)



TP3002 REC
0.2V/0.1μsec. div. 0.6Vp-p

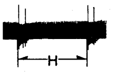
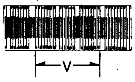
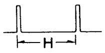
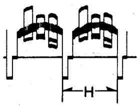
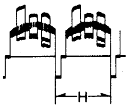
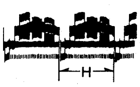
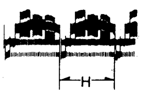
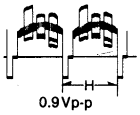
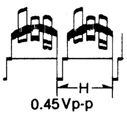
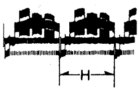
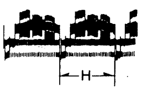
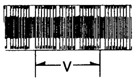
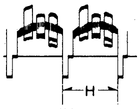
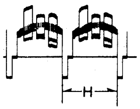
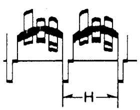
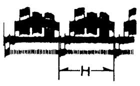
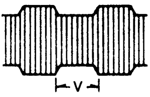
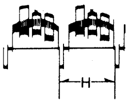
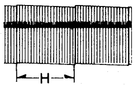


TP3003 REC
0.1V/20μsec. div. 0.5Vp-p

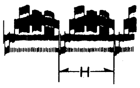
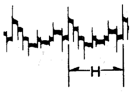
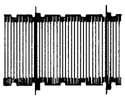
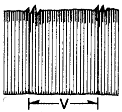
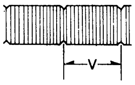
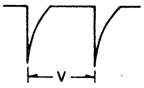
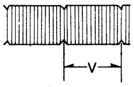
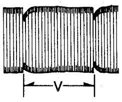
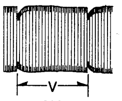
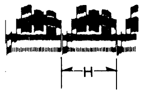
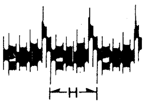


TP3005 PLAY
50mV/5msec. div. 100Vp-p

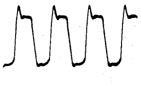
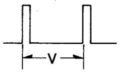
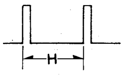
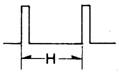
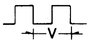
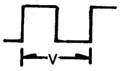
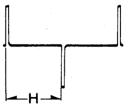
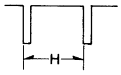
IC3001 (AN3217S)

PIN NO.	WAVEFORM	PIN NO.	WAVEFORM
1	 0.3Vp-p (REC/P.B)	14	 0.5Vp-p (REC) 0.4Vp-p (P.B)
2	 5Vp-p (REC/P.B)	15	 0.25Vp-p (REC)
4	 0.8Vp-p (REC)	15	 0.35Vp-p (P.B)
6	 0.25Vp-p (P.B)	16	 0.9Vp-p (REC)
8	 0.45Vp-p (REC)	16	 1.3Vp-p (P.B)
8	 0.7Vp-p (P.B)	17	 0.22Vp-p (REC) 0.35Vp-p (P.B)
10	 1.7Vp-p (REC)	19	 0.8Vp-p (REC)
10	 2.2Vp-p (P.B)	19	 1.2Vp-p (P.B)
12	 0.4Vp-p (P.B)	22	 0.25Vp-p (REC)
		25 26	 0.68Vp-p (REC/P.B)

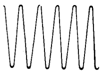
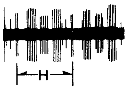
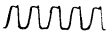
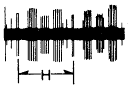
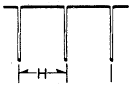
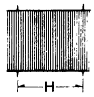
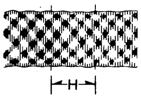
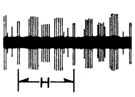
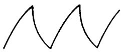
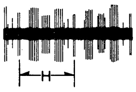
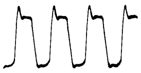
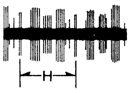
IC3002 (AN3321S)

PIN NO.	WAVEFORM
3	 0.5Vp-p (P.B)
8	 0.3Vp-p (P.B)
9	 1.2Vp-p (P.B)
12, 13	 0.2Vp-p (P.B)
16	 80mVp-p (P.B)
17	 1Vp-p (P.B)
19	 0.3Vp-p (P.B)
20	 0.2Vp-p (P.B)
24	 1.2Vp-p (P.B)
27, 29	 0.3Vp-p (P.B)
30	 1Vp-p (P.B)

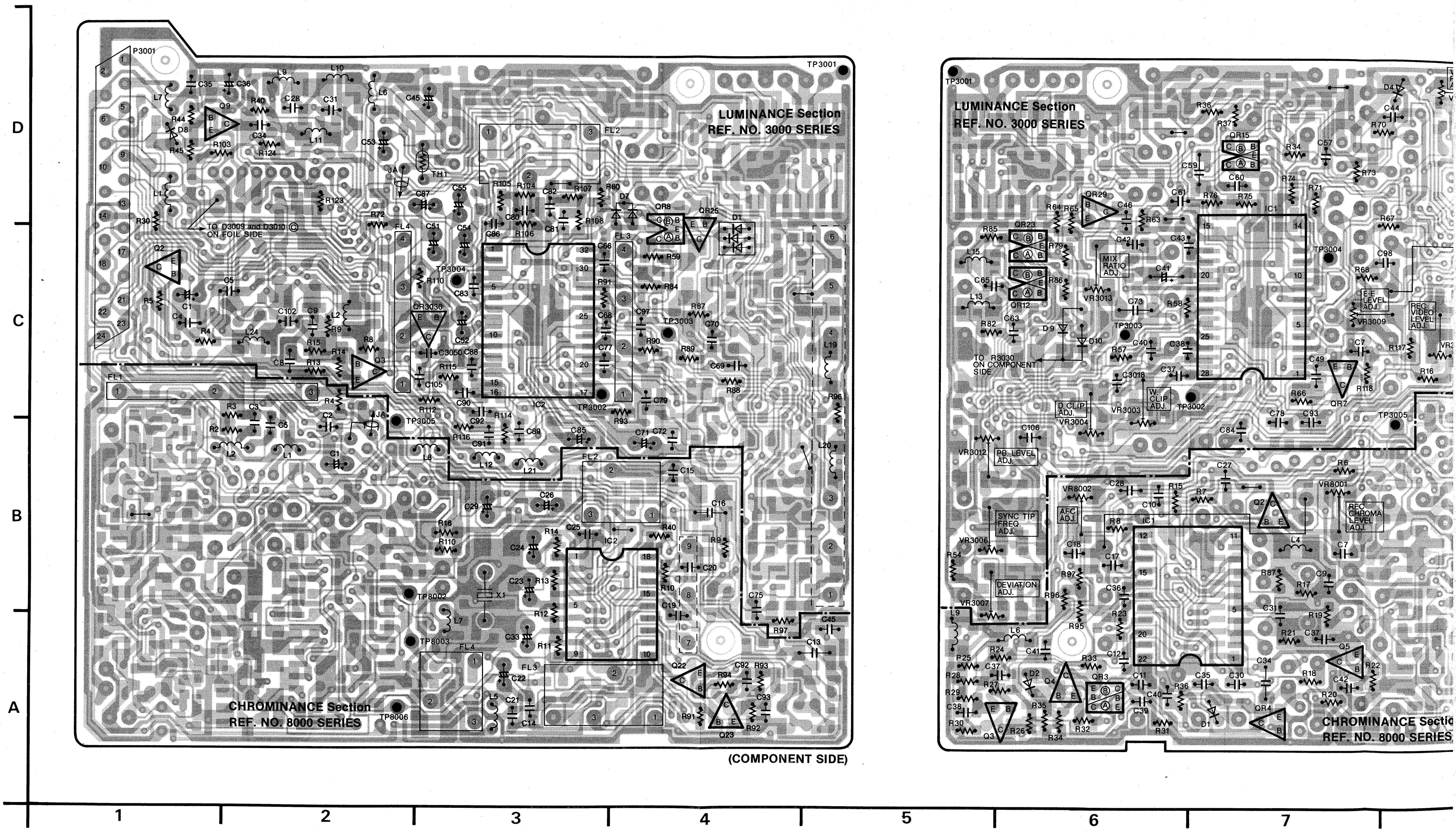
IC8002 (MN6163AS)

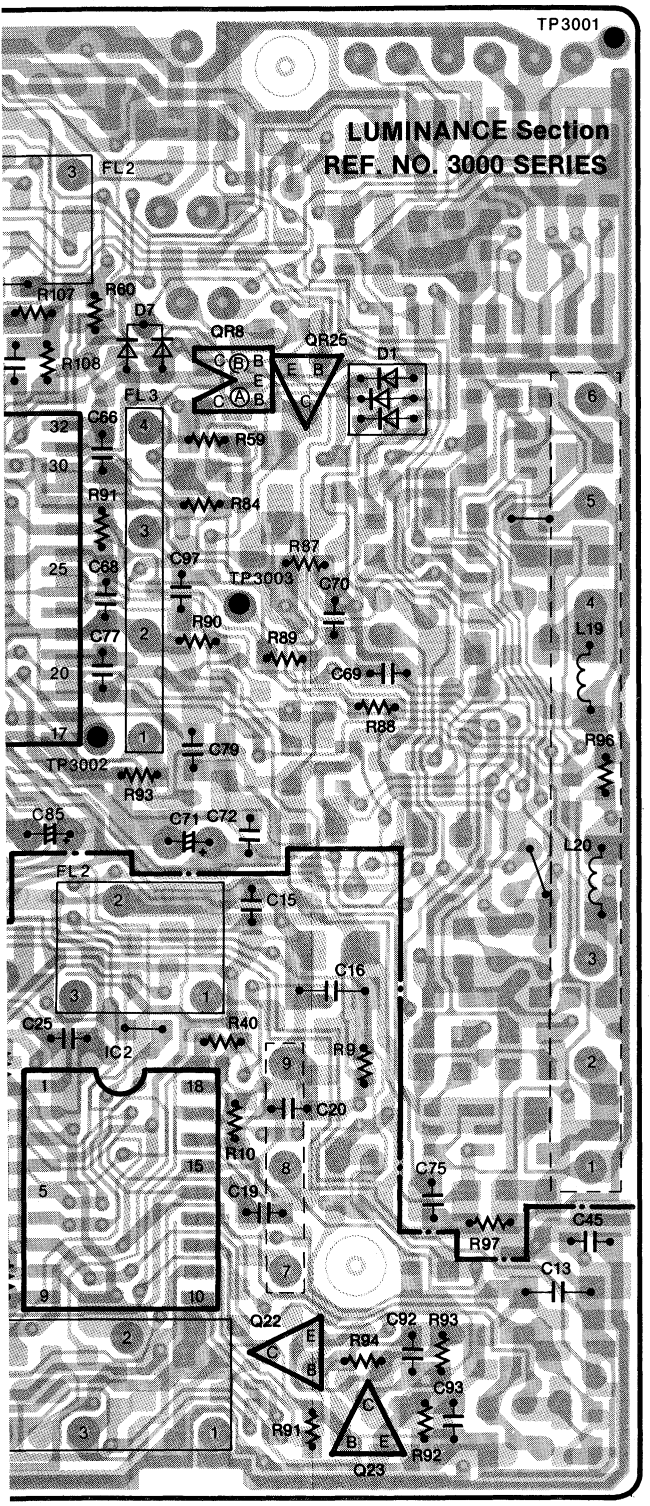
PIN NO.	WAVEFORM	PIN NO.	WAVEFORM
2	 0.7Vp-p (REC/P.B)	13	 5Vp-p (REC/P.B)
4	 5Vp-p (REC)	14	 5Vp-p (REC/P.B)
6	 3.2Vp-p (REC/P.B)	16	 5Vp-p (REC/P.B)
10	 5Vp-p (P.B)	18	 5Vp-p (REC/P.B)

IC8001 (AN6367S)

PIN NO.	WAVEFORM	PIN NO.	WAVEFORM
4	 4.43MHz 0.52Vp-p (REC/P.B)	14	 0.55Vp-p (REC) 0.5Vp-p (P.B)
5	 4.43MHz 0.7Vp-p (REC/P.B)	16	 1.2Vp-p (P.B)
6	 1.8Vp-p (REC/P.B)	18	 0.15Vp-p (REC)
7	 1Vp-p (REC/P.B)	20, 21	 0.3Vp-p (REC/P.B)
9	 625KHz 0.7Vp-p (REC/P.B)	22	 0.12Vp-p (REC)
11	 5.02MHz 0.7Vp-p (REC/P.B)	22	 0.3Vp-p (P.B)

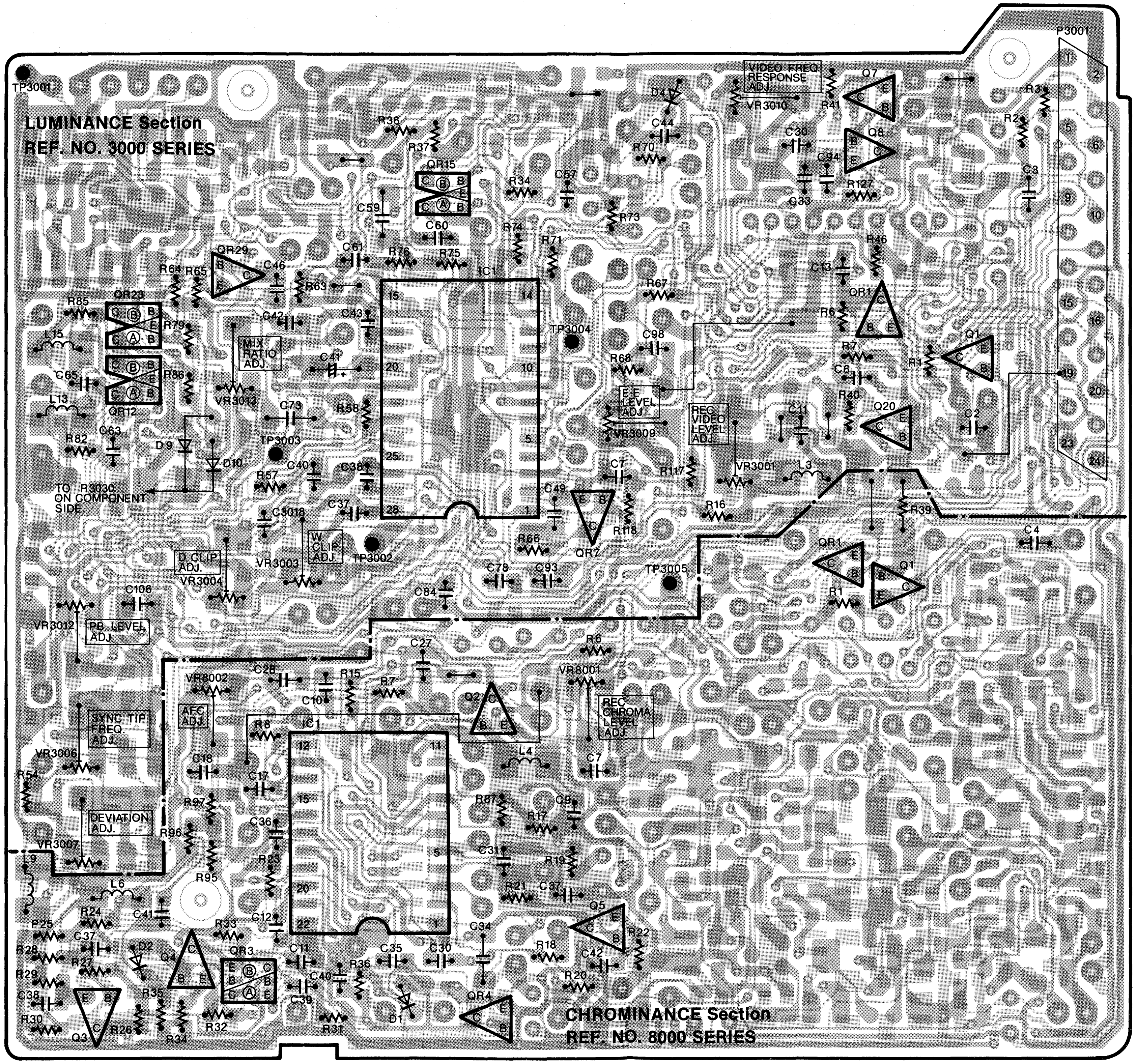
3-23. LUMINANCE & CHROMINANCE C.B.A. (VEP03471D)


LUMINANCE Section
REF. NO. 3000 SERIES
CHROMINANCE Section
REF. NO. 8000 SERIES
(COMPONENT SIDE)
TO D3009 and D3010 ON FOIL SIDE
TO R3030 ON COMPONENT SIDE
MIX RATIO ADJ.
D. CLIP ADJ.
W. CLIP ADJ.
PB. LEVEL ADJ.
E-E LEVEL ADJ.
REC VIDEO LEVEL ADJ.
SYNC TIP FREQ. ADJ.
AFC ADJ.
DEVIATION ADJ.
REC CHROMA LEVEL ADJ.
P3001
TP3001
TP3002
TP3003
TP3004
TP3005
TP8002
TP8003
TP8006
IC1
IC2
FL1
FL2
FL3
FL4
X1
VR3003
VR3004
VR3006
VR3007
VR3009
VR3012
VR3013
VR8001
VR8002
D
C
B
A
1
2
3
4
5
6
7



TP3001
LUMINANCE Section
REF. NO. 3000 SERIES
FL2
FL3
QR8
QR25
D7
D1
TP3003
TP3002
L19
L20
IC2
Q22
Q23

(COMPONENT SIDE)



TP3001
LUMINANCE Section
REF. NO. 3000 SERIES
P3001
VIDEO FREQ. RESPONSE ADJ.
VR3010
MIX RATIO ADJ.
VR3013
E-E LEVEL ADJ.
VR3009
REC VIDEO LEVEL ADJ.
VR3001
D. CLIP ADJ.
VR3004
W. CLIP ADJ.
VR3003
TP3002
TP3003
TP3004
TP3005
TO R3030 ON COMPONENT SIDE
PB. LEVEL ADJ.
VR3012
SYNC TIP FREQ. ADJ.
VR3006
AFC ADJ.
VR8002
DEVIATION ADJ.
VR3007
REC CHROMA LEVEL ADJ.
VR8001
IC1
QR15
QR23
QR12
QR29
QR7
QR1
QR3
QR4
Q1
Q2
Q3
Q4
Q5
Q7
Q8
Q20
CHROMINANCE Section
REF. NO. 8000 SERIES

(FOIL SIDE)

4 5 6 7 8 9

LUMINANCE & CHROMINANCE C.B.A.		
Transistor		
Q3001	C-9	Ⓕ
Q3002	C-1	©
Q3003	C-2	©
Q3007	D-8	Ⓕ
Q3008	D-8	Ⓕ
Q3009	D-1	©
Q3020	C-8	Ⓕ
Q8001	C-8	Ⓕ
Q8002	B-7	Ⓕ
Q8003	A-5	Ⓕ
Q8004	A-6	Ⓕ
Q8005	A-7	Ⓕ
Q8022	A-4	©
Q8023	A-4	©
Transistor & Resistor		
QR3001	C-8	Ⓕ
QR3007	C-7	Ⓕ
QR3008	D-4	©
QR3012	C-6	Ⓕ
QR3015	D-7	Ⓕ
QR3023	C-6	Ⓕ
QR3025	D-4	©
QR3029	D-6	Ⓕ
QR3030	C-3	©
QR8001	C-8	Ⓕ
QR8003	A-6	Ⓕ
QR8004	A-7	Ⓕ
Integrated Circuit		
IC3001	D-7	Ⓕ
IC3002	C-3	©
IC8001	B-6	Ⓕ
IC8002	B-4	©
Test Point		
TP3001	D-5	©
TP3001	D-5	Ⓕ
TP3002	C-3	©
TP3002	C-7	Ⓕ
TP3003	C-4	©
TP3003	C-6	Ⓕ
TP3004	C-3	©
TP3004	C-7	Ⓕ
TP3005	B-2	©
TP3005	C-8	Ⓕ
Adjustment		
VR3001	C-8	Ⓕ
VR3003	C-6	Ⓕ
VR3004	B-6	Ⓕ
VR3006	B-5	Ⓕ
VR3007	B-5	Ⓕ
VR3009	C-7	Ⓕ
VR3010	D-8	Ⓕ
VR3012	B-5	Ⓕ
VR3013	C-6	Ⓕ
VR8001	B-7	Ⓕ
VR8002	B-6	Ⓕ
Connector		
P3001	D-1	©
P3001	D-9	Ⓕ

ADDRESS INFORMATION
© ··· COMPONENT SIDE
Ⓕ ··· FOIL SIDE

3-24. DRIVE SCHEMATIC DIAGRAM

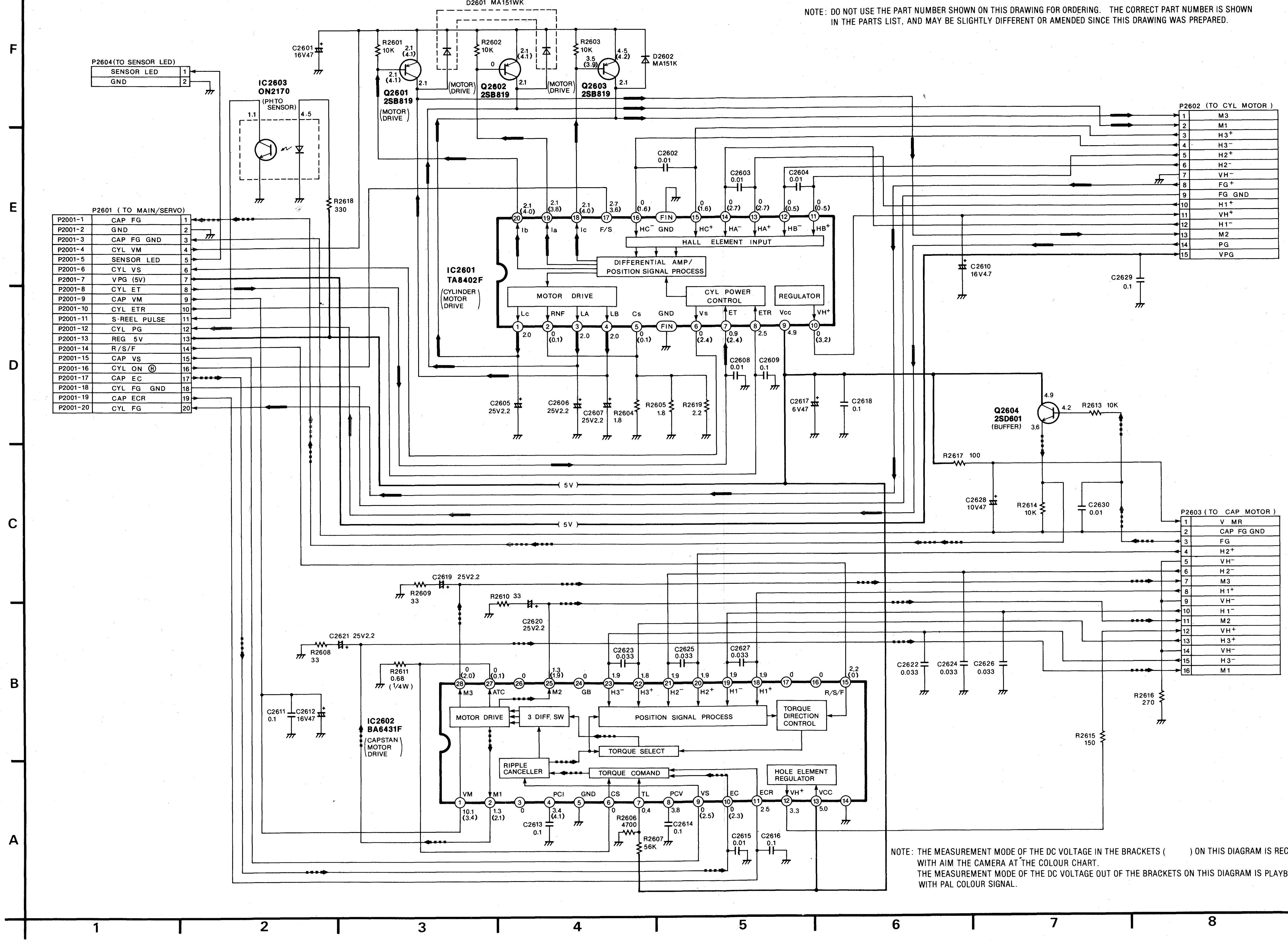
CYLINDER SERVO PHASE LOOP

CYLINDER SERVO SPEED LOOP

CAPSTAN SERVO PHASE LOOP

CAPSTAN SERVO SPEED LOOP

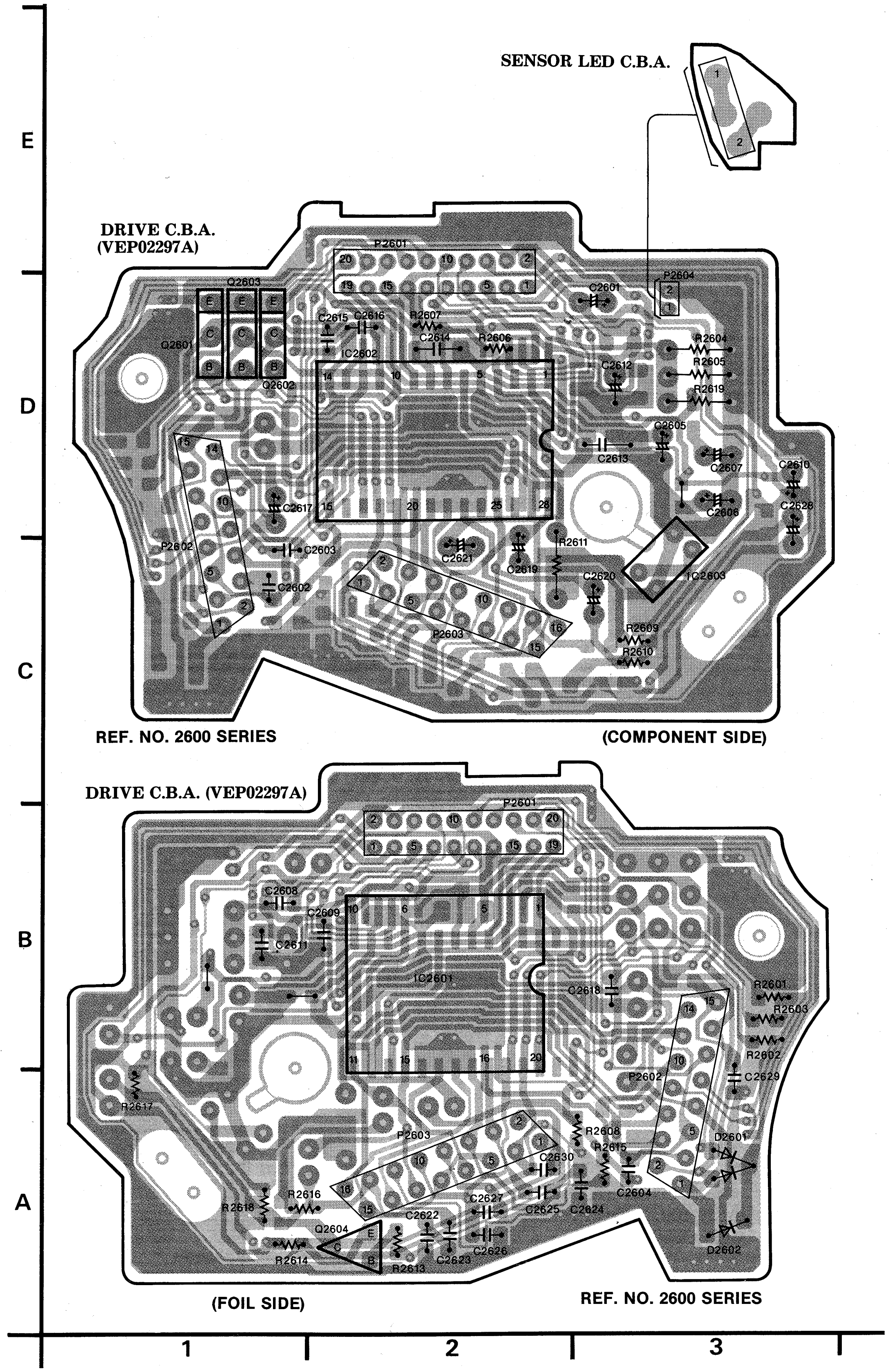
NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.


F
E
D
C
B
A
1
2
3
4
5
6
7
8
D2601 MA151WK
C2601 16V47
R2601 10K
R2602 10K
R2603 10K
D2602 MA151K
Q2601 2SB819 (MOTOR DRIVE)
Q2602 2SB819
Q2603 2SB819
(MOTOR DRIVE)
P2604 (TO SENSOR LED)
SENSOR LED 1
GND 2
IC2603 ON2170 (PHTO SENSOR)
R2618 330
P2601 (TO MAIN/SERVO)
P2001-1 CAP FG 1
P2001-2 GND 2
P2001-3 CAP FG GND 3
P2001-4 CYL VM 4
P2001-5 SENSOR LED 5
P2001-6 CYL VS 6
P2001-7 VPG (5V) 7
P2001-8 CYL ET 8
P2001-9 CAP VM 9
P2001-10 CYL ETR 10
P2001-11 S-REEL PULSE 11
P2001-12 CYL PG 12
P2001-13 REG 5V 13
P2001-14 R/S/F 14
P2001-15 CAP VS 15
P2001-16 CYL ON Ⓗ 16
P2001-17 CAP EC 17
P2001-18 CYL FG GND 18
P2001-19 CAP ECR 19
P2001-20 CYL FG 20
IC2601 TA8402F (CYLINDER MOTOR DRIVE)
C2602 0.01
C2603 0.01
C2604 0.01
HALL ELEMENT INPUT
DIFFERENTIAL AMP/ POSITION SIGNAL PROCESS
MOTOR DRIVE
CYL POWER CONTROL
REGULATOR
Ib Ia Ic F/S HC⁻ GND HC⁺ HA⁻ HA⁺ HB⁻ HB⁺
Lc RNF LA LB Cs GND Vs ET ETR Vcc VH⁺
FIN
C2605 25V2.2
C2606 25V2.2
C2607 25V2.2
R2604 1.8
R2605 1.8
R2619 2.2
C2608 0.01
C2609 0.1
C2617 6V47
C2618 0.1
C2610 16V4.7
C2629 0.1
P2602 (TO CYL MOTOR)
1 M3
2 M1
3 H3⁺
4 H3⁻
5 H2⁺
6 H2⁻
7 VH⁻
8 FG⁺
9 FG GND
10 H1⁺
11 VH⁺
12 H1⁻
13 M2
14 PG
15 VPG
Q2604 2SD601 (BUFFER)
R2613 10K
R2617 100
C2628 10V47
R2614 10K
C2630 0.01
5V
P2603 (TO CAP MOTOR)
1 V MR
2 CAP FG GND
3 FG
4 H2⁺
5 VH⁻
6 H2⁻
7 M3
8 H1⁺
9 VH⁻
10 H1⁻
11 M2
12 VH⁺
13 H3⁺
14 VH⁻
15 H3⁻
16 M1
C2619 25V2.2
R2609 33
R2610 33
C2620 25V2.2
C2621 25V2.2
R2608 33
R2611 0.68 (1/4W)
C2611 0.1
C2612 16V47
IC2602 BA6431F (CAPSTAN MOTOR DRIVE)
C2623 0.033
C2625 0.033
C2627 0.033
C2622 0.033
C2624 0.033
C2626 0.033
M3 ATC M2 GB H3⁻ H3⁺ H2⁻ H2⁺ H1⁻ H1⁺ R/S/F
MOTOR DRIVE
3 DIFF. SW
POSITION SIGNAL PROCESS
TORQUE DIRECTION CONTROL
TORQUE SELECT
RIPPLE CANCELLER
TORQUE COMAND
HOLE ELEMENT REGULATOR
VM M1 PCI GND CS TL PCV VS EC ECR VH⁺ VCC
C2613 0.1
R2606 4700
R2607 56K
C2614 0.1
C2615 0.01
C2616 0.1
R2616 270
R2615 150

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH AIM THE CAMERA AT THE COLOUR CHART.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

Back Page:
LUMINANCE & CHROMINANCE Section

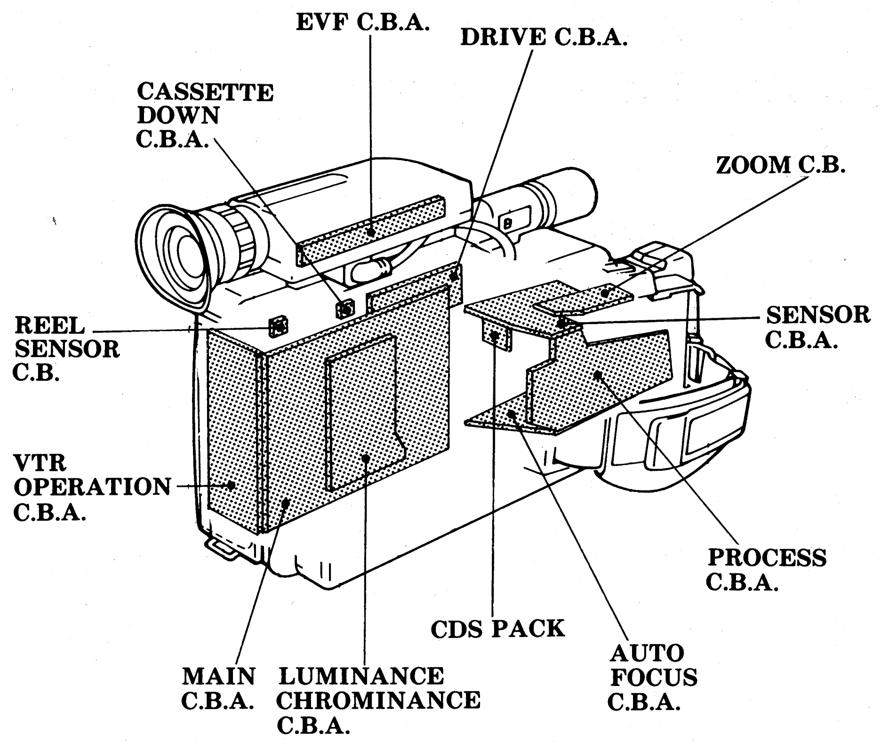
3-25. DRIVE C.B.A. (VEP02297A)

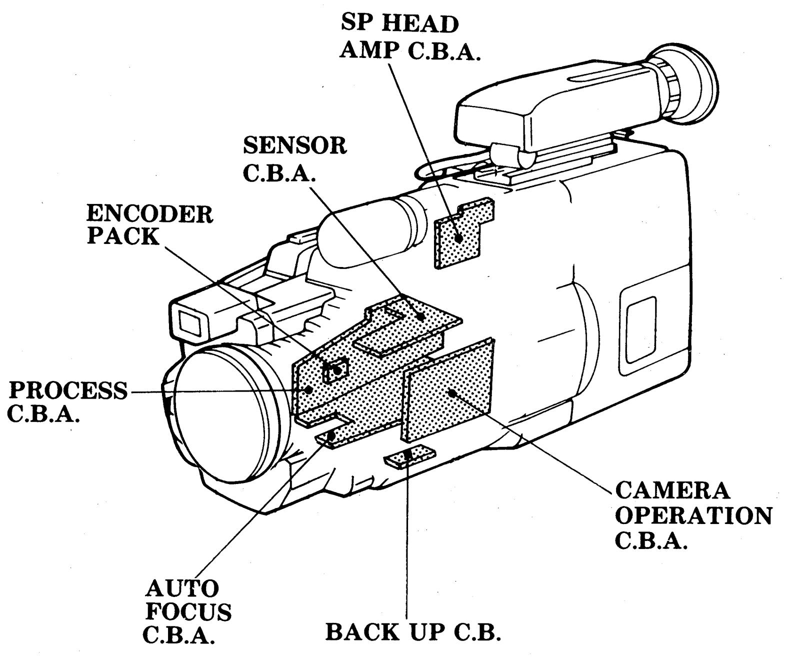

SENSOR LED C.B.A.
DRIVE C.B.A. (VEP02297A)
E
D
C
B
A
1
2
3
P2601
P2604
Q2603
Q2601
Q2602
C2615
C2616
R2607
C2614
R2606
IC2602
C2601
R2604
R2605
R2619
C2612
C2605
C2613
C2607
C2610
C2608
C2628
C2617
C2603
C2602
P2602
C2621
C2619
R2611
C2620
IC2603
P2603
R2609
R2610
REF. NO. 2600 SERIES
(COMPONENT SIDE)
C2609
C2611
IC2601
C2618
R2601
R2603
R2602
C2629
D2601
D2602
R2608
R2615
C2630
C2604
C2624
C2625
C2627
C2626
C2622
C2623
R2616
R2617
R2618
Q2604
R2613
R2614
(FOIL SIDE)
REF. NO. 2600 SERIES

DRIVE C.B.A.	
Transistor	
Q2601	D-1 Ⓒ
Q2602	D-1 Ⓒ
Q2603	D-1 Ⓒ
Q2604	A-2 Ⓕ
Integrated Circuit	
IC2601	B-2 Ⓕ
IC2602	D-2 Ⓒ
IC2603	C-3 Ⓒ
Connector	
P2601	C-2 Ⓒ
P2601	E-2 Ⓒ
P2602	A-3 Ⓕ
P2602	C-1 Ⓒ
P2603	A-3 Ⓕ
P2603	C-2 Ⓒ
P2604	C-3 Ⓒ

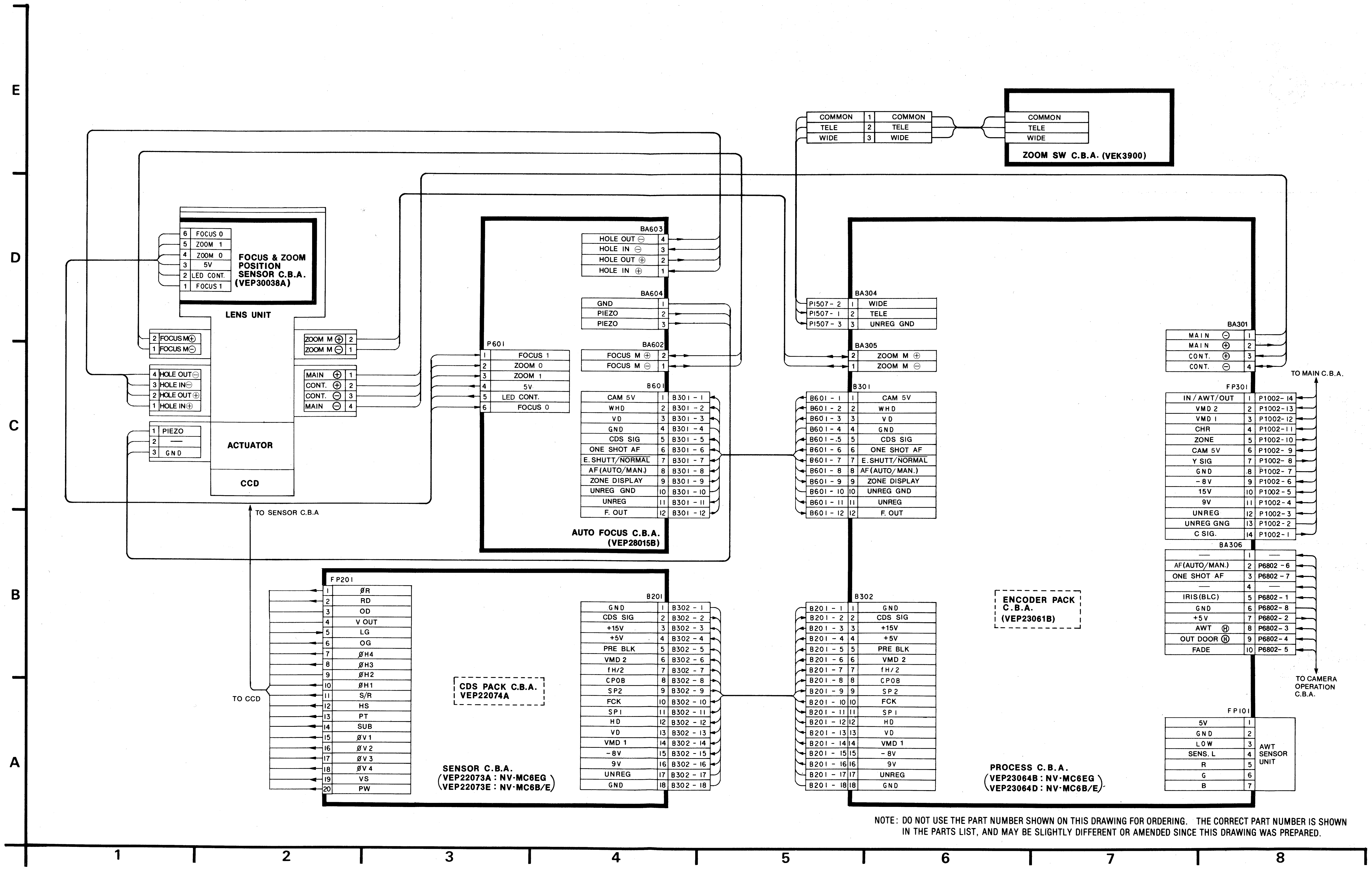
ADDRESS INFORMATION
Ⓒ...COMPONENT SIDE
Ⓕ...FOIL SIDE

3-26. CIRCUIT BOARD LAYOUT


EVF C.B.A.
DRIVE C.B.A.
CASSETTE DOWN C.B.A.
ZOOM C.B.
REEL SENSOR C.B.
SENSOR C.B.A.
VTR OPERATION C.B.A.
PROCESS C.B.A.
CDS PACK
AUTO FOCUS C.B.A.
MAIN C.B.A.
LUMINANCE CHROMINANCE C.B.A.


SP HEAD AMP C.B.A.
SENSOR C.B.A.
ENCODER PACK
PROCESS C.B.A.
CAMERA OPERATION C.B.A.
AUTO FOCUS C.B.A.
BACK UP C.B.

3-27. CAMERA INTERCONNECTION SCHEMATIC DIAGRAM

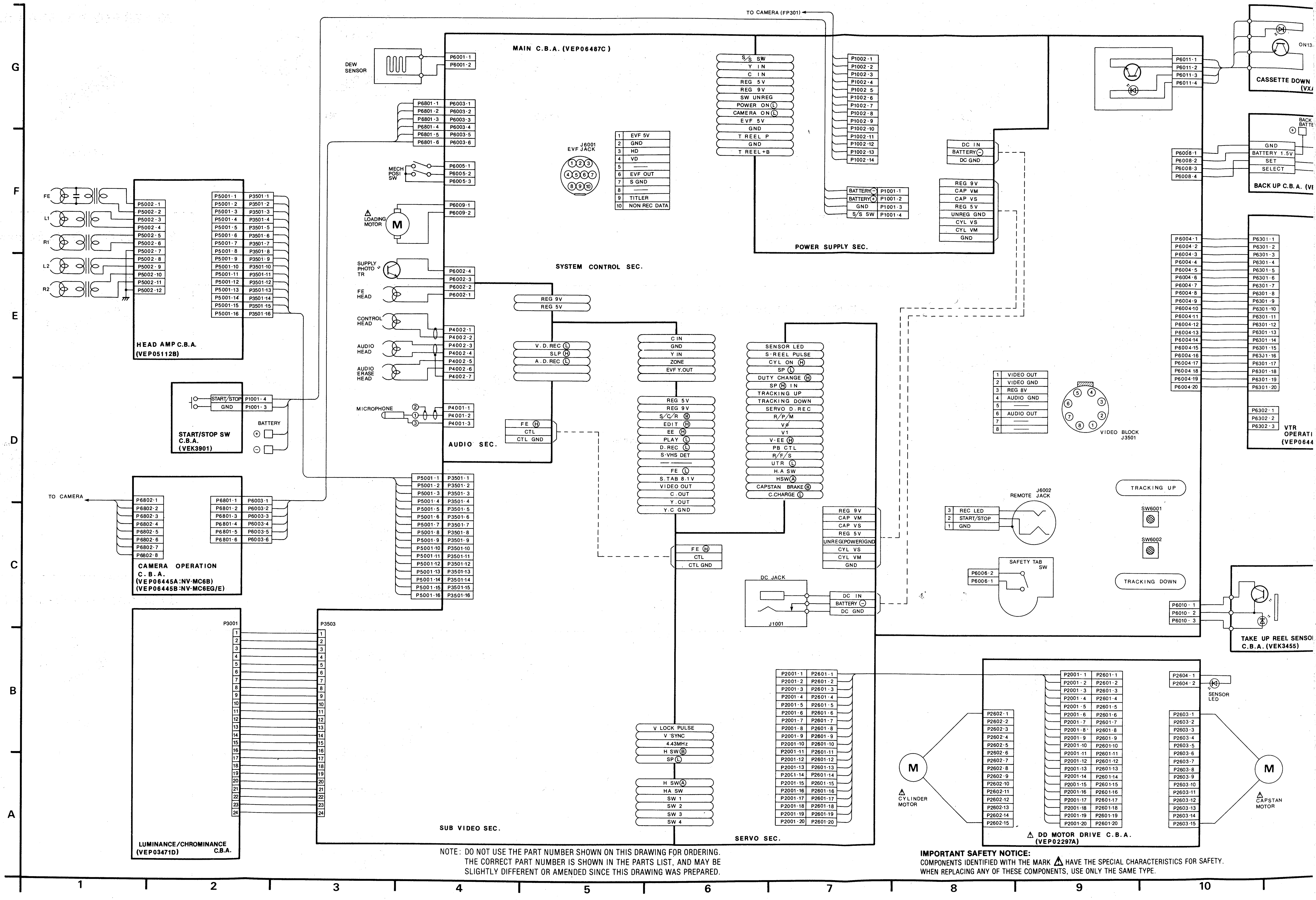


E
D
C
B
A
1
2
3
4
5
6
7
8
FOCUS & ZOOM POSITION SENSOR C.B.A. (VEP30038A)
6 FOCUS 0
5 ZOOM 1
4 ZOOM 0
3 5V
2 LED CONT.
1 FOCUS 1
LENS UNIT
2 FOCUS M⊕
1 FOCUS M⊖
4 HOLE OUT⊖
3 HOLE IN⊖
2 HOLE OUT⊕
1 HOLE IN⊕
1 PIEZO
2 —
3 GND
ZOOM M ⊕ 2
ZOOM M ⊖ 1
MAIN ⊕ 1
CONT. ⊕ 2
CONT. ⊖ 3
MAIN ⊖ 4
ACTUATOR
CCD
TO SENSOR C.B.A
AUTO FOCUS C.B.A. (VEP28015B)
BA603
HOLE OUT ⊖ 4
HOLE IN ⊖ 3
HOLE OUT ⊕ 2
HOLE IN ⊕ 1
BA604
GND 1
PIEZO 2
PIEZO 3
BA602
FOCUS M ⊕ 2
FOCUS M ⊖ 1
P601
1 FOCUS 1
2 ZOOM 0
3 ZOOM 1
4 5V
5 LED CONT.
6 FOCUS 0
B601
CAM 5V 1 B301 - 1
WHD 2 B301 - 2
VD 3 B301 - 3
GND 4 B301 - 4
CDS SIG 5 B301 - 5
ONE SHOT AF 6 B301 - 6
E.SHUTT/NORMAL 7 B301 - 7
AF(AUTO/MAN.) 8 B301 - 8
ZONE DISPLAY 9 B301 - 9
UNREG GND 10 B301 - 10
UNREG 11 B301 - 11
F. OUT 12 B301 - 12
COMMON 1 COMMON
TELE 2 TELE
WIDE 3 WIDE
ZOOM SW C.B.A. (VEK3900)
COMMON
TELE
WIDE
PROCESS C.B.A. (VEP23064B : NV-MC6EG) (VEP23064D : NV-MC6B/E)
ENCODER PACK C.B.A. (VEP23061B)
BA304
P1507 - 2 1 WIDE
P1507 - 1 2 TELE
P1507 - 3 3 UNREG GND
BA305
2 ZOOM M ⊕
1 ZOOM M ⊖
B301
B601 - 1 1 CAM 5V
B601 - 2 2 WHD
B601 - 3 3 VD
B601 - 4 4 GND
B601 - 5 5 CDS SIG
B601 - 6 6 ONE SHOT AF
B601 - 7 7 E.SHUTT/NORMAL
B601 - 8 8 AF(AUTO/MAN.)
B601 - 9 9 ZONE DISPLAY
B601 - 10 10 UNREG GND
B601 - 11 11 UNREG
B601 - 12 12 F. OUT
BA301
MAIN ⊖ 1
MAIN ⊕ 2
CONT. ⊕ 3
CONT. ⊖ 4
TO MAIN C.B.A.
FP301
IN/AWT/OUT 1 P1002-14
VMD 2 2 P1002-13
VMD 1 3 P1002-12
CHR 4 P1002-11
ZONE 5 P1002-10
CAM 5V 6 P1002-9
Y SIG 7 P1002-8
GND 8 P1002-7
-8V 9 P1002-6
15V 10 P1002-5
9V 11 P1002-4
UNREG 12 P1002-3
UNREG GNG 13 P1002-2
C SIG. 14 P1002-1
BA306
— 1 —
AF(AUTO/MAN.) 2 P6802-6
ONE SHOT AF 3 P6802-7
— 4 —
IRIS(BLC) 5 P6802-1
GND 6 P6802-8
+5V 7 P6802-2
AWT Ⓗ 8 P6802-3
OUT DOOR Ⓗ 9 P6802-4
FADE 10 P6802-5
TO CAMERA OPERATION C.B.A.
FP101
5V 1
GND 2
LOW 3
SENS. L 4
R 5
G 6
B 7
AWT SENSOR UNIT
SENSOR C.B.A. (VEP22073A : NV-MC6EG) (VEP22073E : NV-MC6B/E)
CDS PACK C.B.A. VEP22074A
TO CCD
FP201
1 ØR
2 RD
3 OD
4 V OUT
5 LG
6 OG
7 ØH4
8 ØH3
9 ØH2
10 ØH1
11 S/R
12 HS
13 PT
14 SUB
15 ØV1
16 ØV2
17 ØV3
18 ØV4
19 VS
20 PW
B201
GND 1 B302 - 1
CDS SIG 2 B302 - 2
+15V 3 B302 - 3
+5V 4 B302 - 4
PRE BLK 5 B302 - 5
VMD 2 6 B302 - 6
fH/2 7 B302 - 7
CPOB 8 B302 - 8
SP2 9 B302 - 9
FCK 10 B302 - 10
SP1 11 B302 - 11
HD 12 B302 - 12
VD 13 B302 - 13
VMD 1 14 B302 - 14
-8V 15 B302 - 15
9V 16 B302 - 16
UNREG 17 B302 - 17
GND 18 B302 - 18
B302
B201 - 1 1 GND
B201 - 2 2 CDS SIG
B201 - 3 3 +15V
B201 - 4 4 +5V
B201 - 5 5 PRE BLK
B201 - 6 6 VMD 2
B201 - 7 7 fH/2
B201 - 8 8 CPOB
B201 - 9 9 SP2
B201 - 10 10 FCK
B201 - 11 11 SP1
B201 - 12 12 HD
B201 - 13 13 VD
B201 - 14 14 VMD 1
B201 - 15 15 -8V
B201 - 16 16 9V
B201 - 17 17 UNREG
B201 - 18 18 GND

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

3-28. VTR INTERCONNECTION SCHEMATIC DIAGRAM

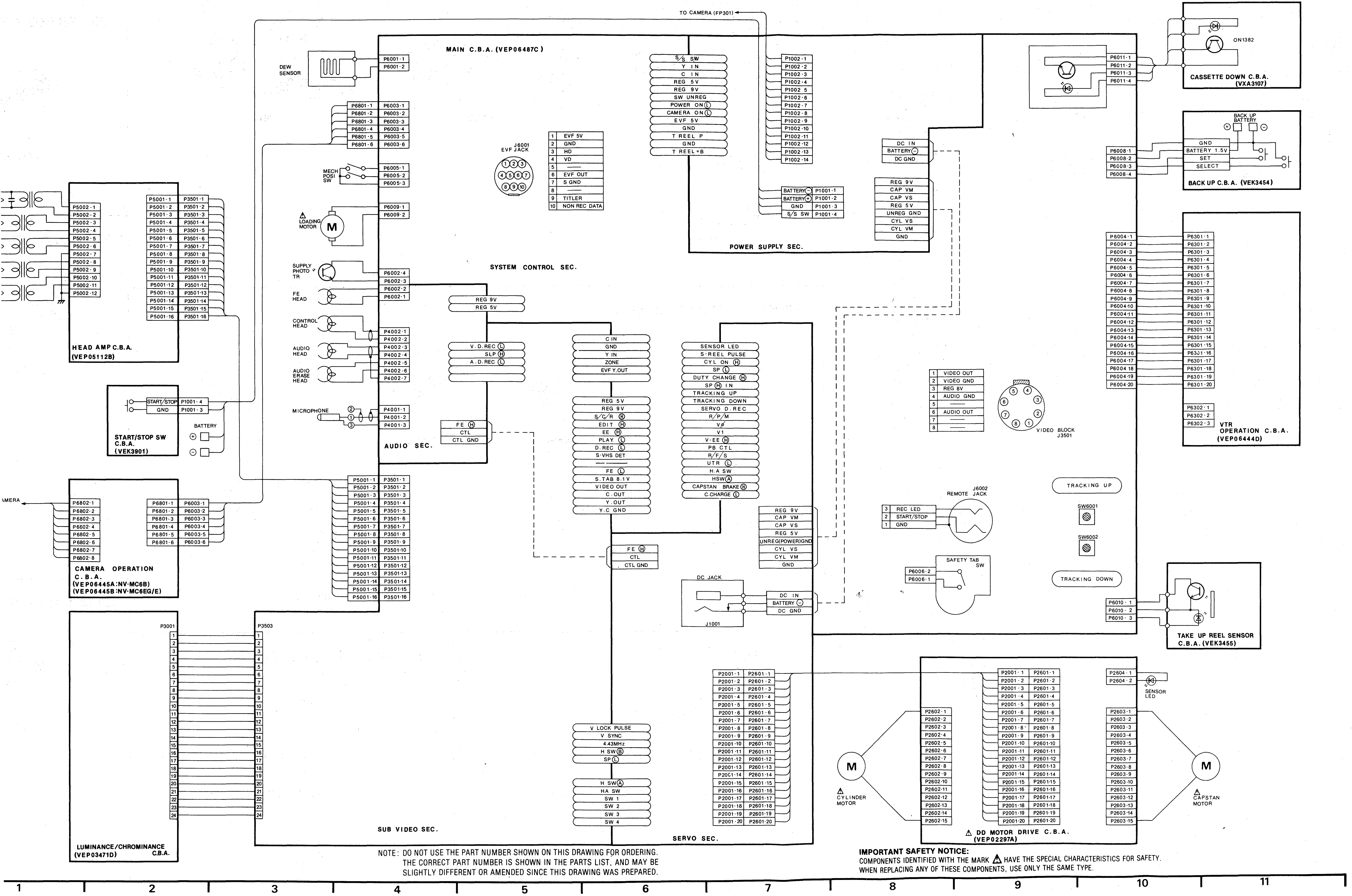
CAMERA


MAIN C.B.A. (VEP06487C)
SYSTEM CONTROL SEC.
POWER SUPPLY SEC.
AUDIO SEC.
SUB VIDEO SEC.
SERVO SEC.
TO CAMERA (FP301)
TO CAMERA
DEW SENSOR
MECH POSI SW
LOADING MOTOR
SUPPLY PHOTO TR
FE HEAD
CONTROL HEAD
AUDIO HEAD
AUDIO ERASE HEAD
MICROPHONE
HEAD AMP C.B.A. (VEP05112B)
START/STOP SW C.B.A. (VEK3901)
START/STOP
GND
BATTERY
CAMERA OPERATION C.B.A. (VEP06445A:NV-MC6B) (VEP06445B:NV-MC6EG/E)
LUMINANCE/CHROMINANCE C.B.A. (VEP03471D)
P3001
P3503
J6001 EVF JACK
EVF 5V
GND
HD
VD
EVF OUT
S GND
TITLER
NON REC DATA
S/S SW
Y IN
C IN
REG 5V
REG 9V
SW UNREG
POWER ON Ⓛ
CAMERA ON Ⓛ
EVF 5V
T REEL P
T REEL +B
BATTERY ⊖
BATTERY ⊕
DC IN
DC GND
CAP VM
CAP VS
UNREG GND
CYL VS
CYL VM
V. D. REC Ⓛ
SLP Ⓗ
A. D. REC Ⓛ
FE Ⓗ
CTL
CTL GND
ZONE
EVF Y.OUT
S/C/R Ⓗ
EDIT Ⓗ
EE Ⓗ
PLAY Ⓛ
D.REC Ⓛ
S-VHS DET
FE Ⓛ
S.TAB 8.1V
VIDEO OUT
C.OUT
Y.OUT
Y.C GND
SENSOR LED
S-REEL PULSE
CYL ON Ⓗ
SP Ⓛ
DUTY CHANGE Ⓗ
SP Ⓗ IN
TRACKING UP
TRACKING DOWN
SERVO D.REC
R/P/M
V/F
V1
V-EE Ⓗ
PB CTL
R/F/S
UTR Ⓛ
H.A SW
HSW Ⓐ
CAPSTAN BRAKE Ⓗ
C.CHARGE Ⓛ
UNREG(POWER)GND
DC JACK
J1001
V LOCK PULSE
V SYNC
4.43MHz
H SW Ⓑ
SP Ⓛ
H SW Ⓐ
HA SW
SW 1
SW 2
SW 3
SW 4
VIDEO OUT
VIDEO GND
REG 8V
AUDIO GND
AUDIO OUT
VIDEO BLOCK J3501
J6002 REMOTE JACK
REC LED
START/STOP
GND
SAFETY TAB SW
TRACKING UP
TRACKING DOWN
SW6001
SW6002
CASSETTE DOWN
BACK UP C.B.A.
GND
BATTERY 1.5V
SET
SELECT
VTR OPERATI
TAKE UP REEL SENSOR C.B.A. (VEK3455)
SENSOR LED
CYLINDER MOTOR
CAPSTAN MOTOR
DD MOTOR DRIVE C.B.A. (VEP02297A)
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

TR INTERCONNECTION SCHEMATIC DIAGRAM


TO CAMERA (FP301)
MAIN C.B.A. (VEP06487C)
DEW SENSOR
MECH POSI SW
LOADING MOTOR
SUPPLY PHOTO TR
FE HEAD
CONTROL HEAD
AUDIO HEAD
AUDIO ERASE HEAD
MICROPHONE
SYSTEM CONTROL SEC.
AUDIO SEC.
POWER SUPPLY SEC.
SUB VIDEO SEC.
SERVO SEC.
J6001 EVF JACK
EVF 5V
GND
HD
VD
EVF OUT
S GND
TITLER
NON REC DATA
S/S SW
Y IN
C IN
REG 5V
REG 9V
SW UNREG
POWER ON (L)
CAMERA ON (L)
EVF 5V
T REEL P
T REEL +B
DC IN
BATTERY (-)
DC GND
CAP VM
CAP VS
UNREG GND
CYL VS
CYL VM
V.D.REC (L)
SLP (H)
A.D.REC (L)
ZONE
EVF Y.OUT
S/C/R (H)
EDIT (H)
EE (H)
PLAY (L)
D.REC (L)
S-VHS DET
FE (L)
S.TAB 8.1V
VIDEO OUT
C OUT
Y OUT
Y.C GND
SENSOR LED
S.REEL PULSE
CYL ON (H)
SP (L)
DUTY CHANGE (H)
SP (H) IN
TRACKING UP
TRACKING DOWN
SERVO D.REC
R/P/M
V1
V-EE (H)
PB CTL
R/F/S
UTR (L)
H.A SW
HSW (A)
CAPSTAN BRAKE (H)
C.CHARGE (L)
FE (H)
CTL
CTL GND
UNREG(POWER)GND
DC JACK
J1001
V LOCK PULSE
V SYNC
4.43MHz
H SW (B)
H SW (A)
HA SW
SW 1
SW 2
SW 3
SW 4
HEAD AMP C.B.A. (VEP05112B)
START/STOP SW C.B.A. (VEK3901)
START/STOP
BATTERY
CAMERA
CAMERA OPERATION C.B.A. (VEP06445A:NV-MC6B) (VEP06445B:NV-MC6EG/E)
LUMINANCE/CHROMINANCE C.B.A. (VEP03471D)
P3001
P3503
CASSETTE DOWN C.B.A. (VXA3107)
ON1382
BACK UP BATTERY
BATTERY 1.5V
SET
SELECT
BACK UP C.B.A. (VEK3454)
VTR OPERATION C.B.A. (VEP06444D)
VIDEO OUT
VIDEO GND
REG 8V
AUDIO GND
AUDIO OUT
VIDEO BLOCK J3501
J6002 REMOTE JACK
REC LED
START/STOP
GND
TRACKING UP
SW6001
SW6002
TRACKING DOWN
SAFETY TAB SW
TAKE UP REEL SENSOR C.B.A. (VEK3455)
CYLINDER MOTOR
CAPSTAN MOTOR
SENSOR LED
DD MOTOR DRIVE C.B.A. (VEP02297A)
1 2 3 4 5 6 7 8 9 10 11

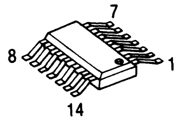
NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING.
THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

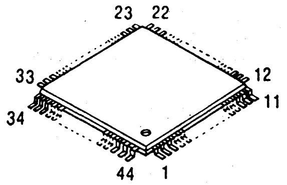
Next Page:
ICs & TRs INFORMATION Section

3-29. ICs & TRs INFORMATION

GENERAL CIRCUIT PARTS

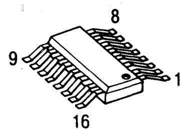


AN1324NS
S6700A
μPD4066BG

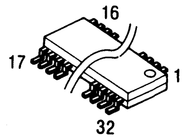


23 22
33
12
11
34
44 1

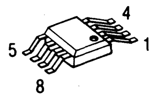
μPD9313GB
MN67461VDJF



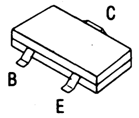
AN2010S
MN4052BS
MN4094BS



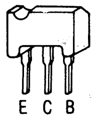
AN2583S
AN2153S
μPD6105G102



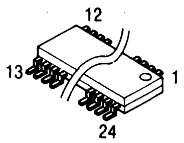
AN1358S
μPC358G2
μPC1513G
AN6914S
AN6562S
NJM3415M
MJM4558MP



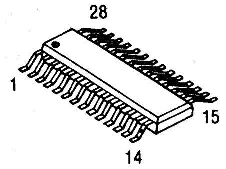
2SA812	2SC3138
2SA1022	2SC3930
2SA1255	2SC3931
2SA1532	2SC4176
2SA1610	2SD968A
2SB709	2SD1256
2SB710	2SD1328
2SB956	2SD1819
2SB970	2SD1820
2SB1218	2SD1820R
2SB1219	2SD1823
2SB1220	



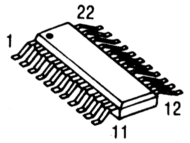
2SA1175



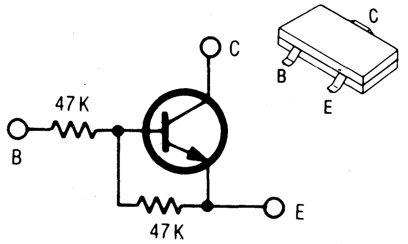
AN2510S
μPC2300G



AN3798S
MN1551VYJS
AN3217S

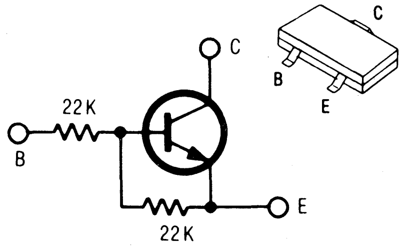


AN6367S
AN3592S
AN3311S



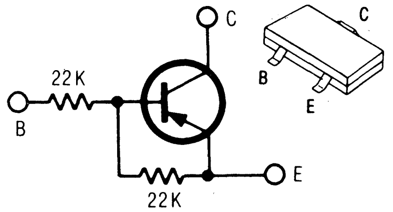
C
47K
B
47K
E
C
B
E

UN5213



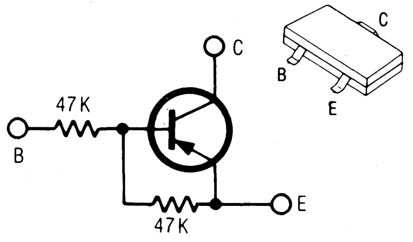
C
22K
B
22K
E
C
B
E

UN5212



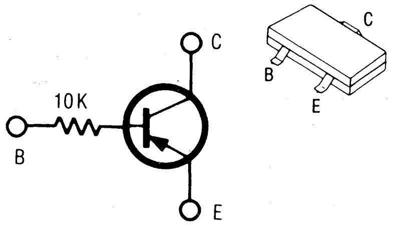
C
22K
B
22K
E
C
B
E

UN5112

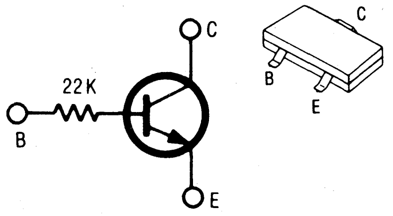


C
47K
B
47K
E
C
B
E

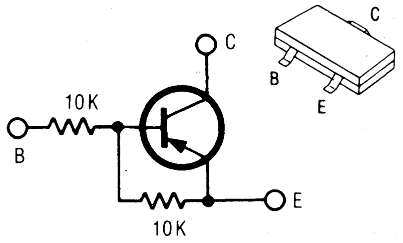
UN5113



UN5115

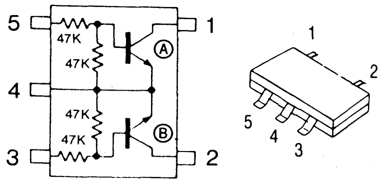


UN5217



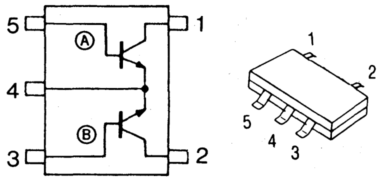
C
10K
B
10K
E
C
B
E

UN5111



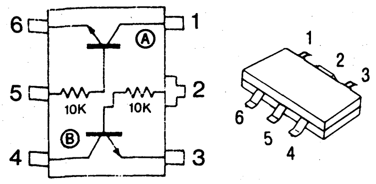
5
1
47K
47K
Ⓐ
4
47K
47K
Ⓑ
3
2
1
2
5
4
3

XN1213



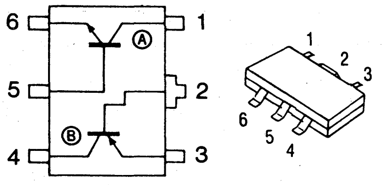
5
1
Ⓐ
4
Ⓑ
3
2
1
2
5
4
3

XN1501



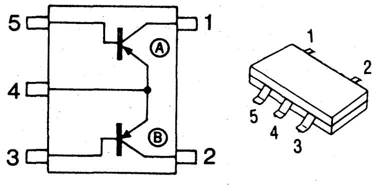
6
1
Ⓐ
5
10K
10K
2
4
Ⓑ
3
1
2
3
6
5
4

XN4215



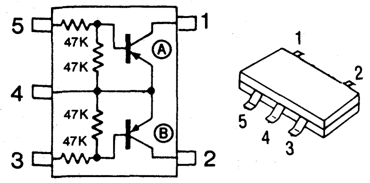
6
1
Ⓐ
5
2
4
Ⓑ
3
1
2
3
6
5
4

XN4601



5
1
Ⓐ
4
3
Ⓑ
2
1
2
5
4
3

XN1401



5
1
47K
47K
Ⓐ
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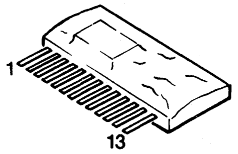
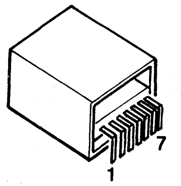
47K
47K
Ⓑ
3
2
1
2
5
4
3

XN1113

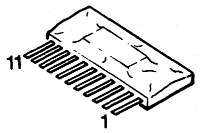
PROCESS & ENCODER PACK



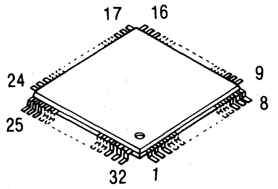
VCR0200



MC8181A

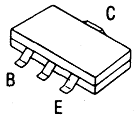


VCR0199

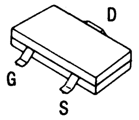


17 16
24
9
8
25
32 1

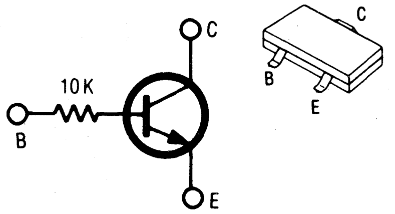
AN2253FA



2SD874

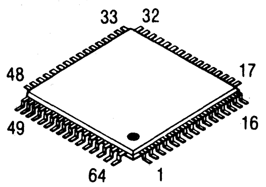


2SK316



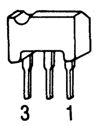
UN5215

AUTO FOCUS

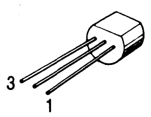


33 32
48
17
49
16
64 1

MN15865VYC

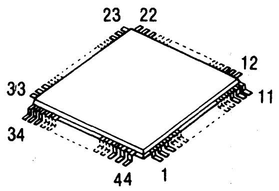


MN1280Q



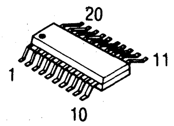
AN78N05

SENSOR & C.D.S. PACK



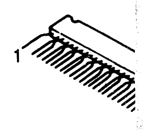
23 22
12
33
11
34
44 1

MN53015XBM



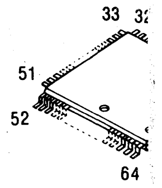
μPD6147G

POWER SUPPL

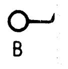


BA6149L

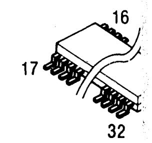
SYSTEM CONTR



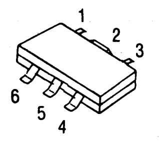
μPD751



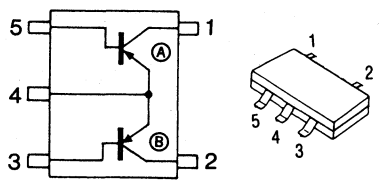
LUMINANCE &



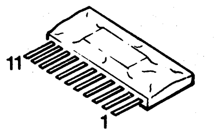
AN3321



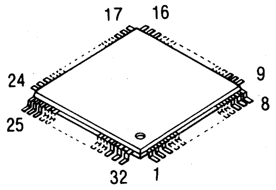
601


5
4
3
1
Ⓐ
Ⓑ
2
1
2
5
4
3

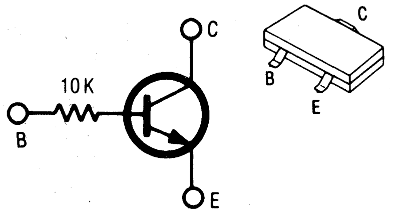
XN1401



VCR0199

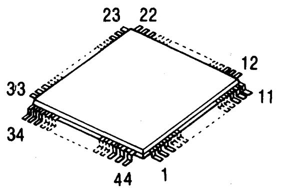

17
16
24
9
8
25
32
1

AN2253FA

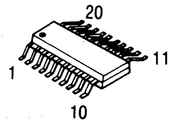


UN5215

SENSOR & C.D.S. PACK

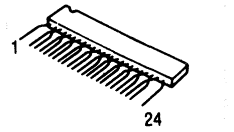

23
22
33
12
11
34
44
1

MN53015XBM

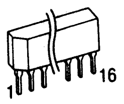


µPD6147G

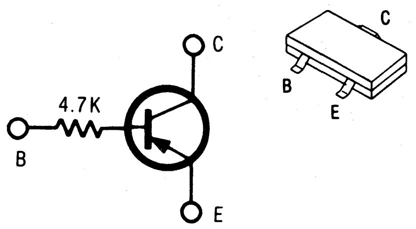
POWER SUPPLY, SUB VIDEO & AUDIO Section



BA6149LS

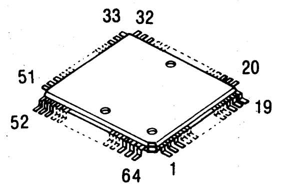


UN102

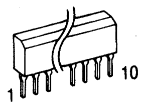


UN5116

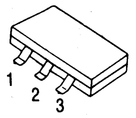
SYSTEM CONTROL Section


33
32
51
20
19
52
64
1

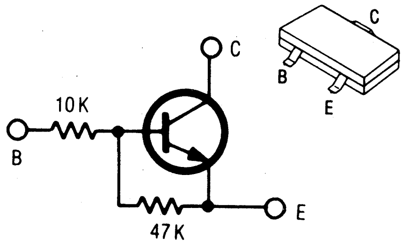
µPD75108G



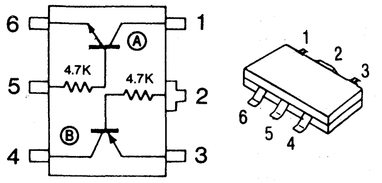
M54543ASL



S81250HGRD

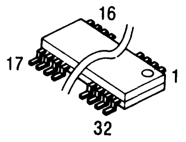

C
10K
B
47K
E
C
B
E

UN5214

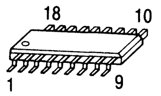

6
5
4
1
2
3
Ⓐ
Ⓑ
4.7K
4.7K
1
2
3
6
5
4

XN4316

LUMINANCE & CHROMINANCE

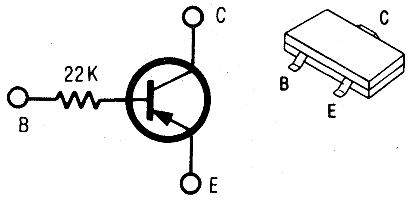


AN3321S



MN6163AS

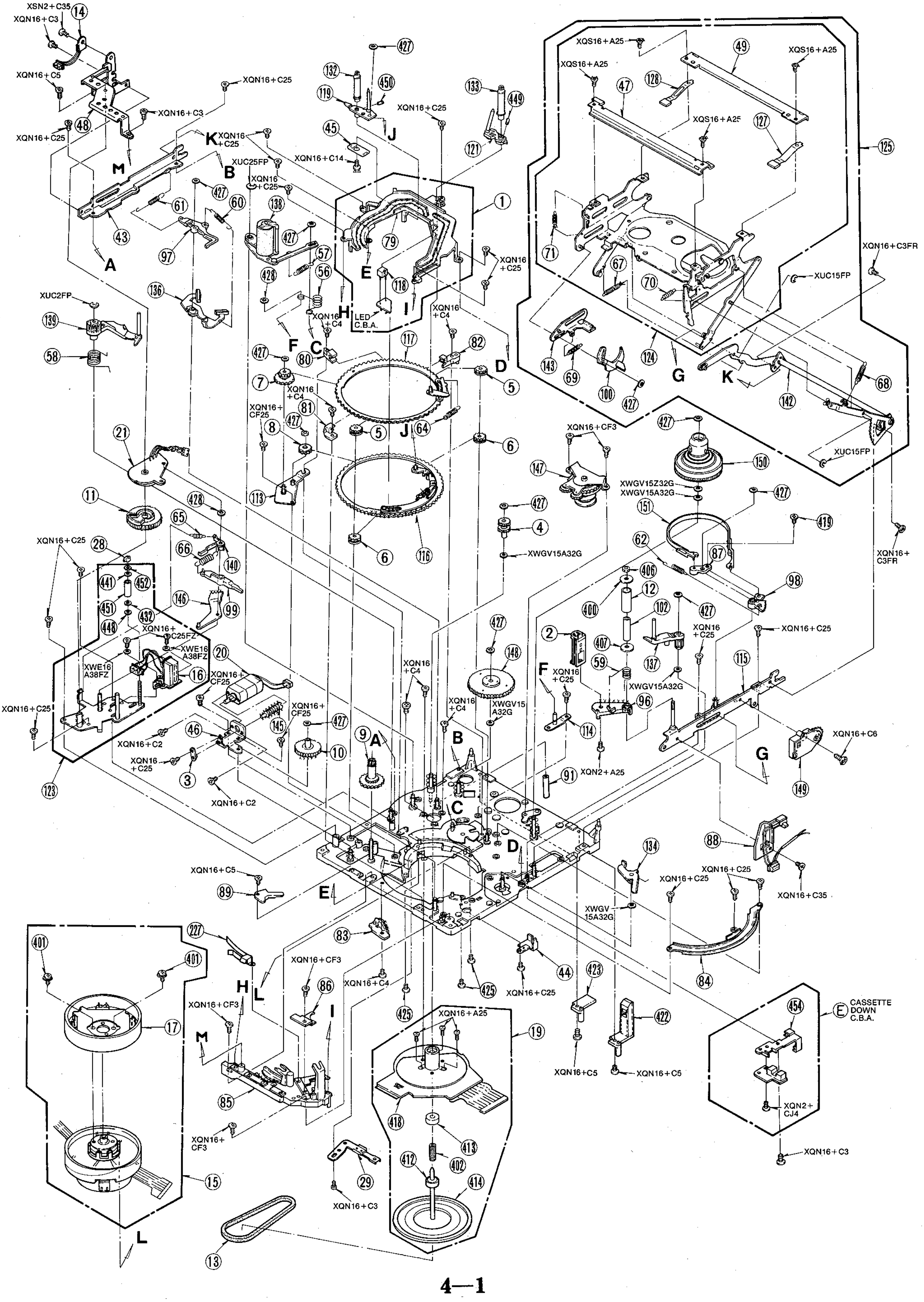
SERVO Section



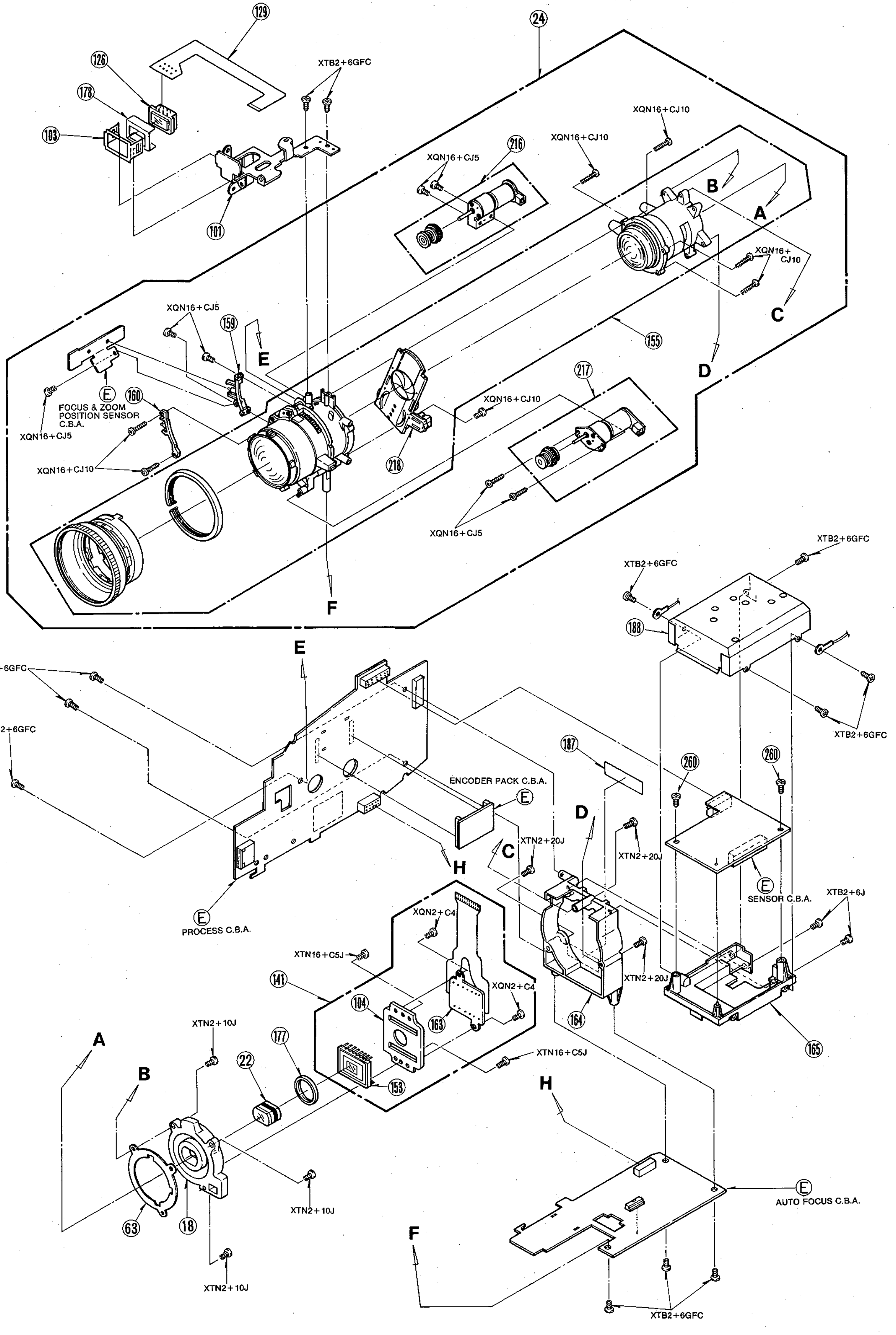
UN5117

SECTION 4
EXPLODED VIEWS & PARTS LIST

4-1. EXPLODED VIEW ❶ VTR MECHANISM SECTION

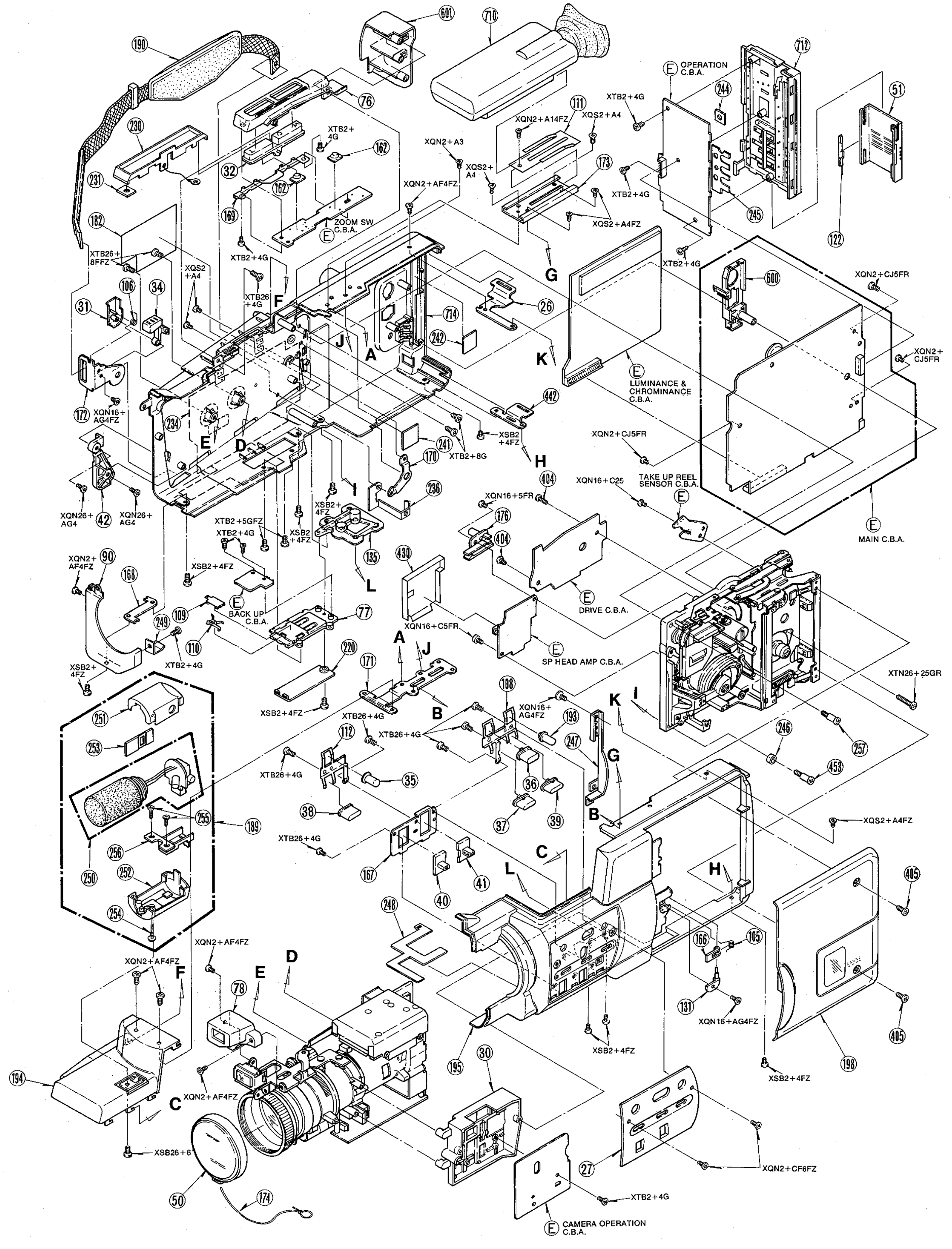

XSN2+C35
XQN16+C3
⑭
XQN16+C5
XQN16+C3
⑱
XQN16+C25
XQN16+C25
K
XQN16+C25
B
M
XUC25FP
XQN16+C25
㊸
A
㊶
㊸
㊳
⑨⑦
⑬⑥
XUC2FP
⑬⑨
㊽
㉑
⑪
XQN16+C25
㉘
④㊶
④㊿②
④㊿①
④㊸②
④④⑧
XQN16+C25FZ
XWE16A38FZ
XWE16A38FZ
⑯
XQN16+C25
⑫③
⑳
XQN16+CF25
㊻
XQN16+C2
XQN16+C25
③
XQN16+C2
④⑳⑧
㊶⑤
⑭⓪
㊶⑥
⑭⑥
⑨⑨
⑭⑤
XQN16+CF25
④②⑦
⑩
⑨
A
④②⑦
⑬②
④⑤⓪
⑪⑨
J
④⑤
XQN16+C14
⑬⑧
④②⑦
㊼
㊻
④②⑧
F
H
C
XQN16+C4
E
⑪⑧
LED C.B.A.
I
⑦⑨
①
XQN16+C25
⑬③
④④⑨
⑫①
XQN16+C25
XQN16+C25
XQN16+C4
④②⑦
⑧⓪
⑪⑦
⑧②
D
⑤
⑦
XQN16+C4
XQN16+CF25
④②⑦
⑧①
⑧
⑤
J
⑥④
⑥
⑪③
⑪⑥
⑥
XQN16+CF3
⑭⑦
④②⑦
④
XWGV15A32G
④②⑦
⑭⑧
XQN16+C4
XQN16+C4
XWGV15A32G
B
C
D
XQN16+C5
⑧⑨
E
㉒⑦
⑧③
XQN16+CF3
L
H
XQN16+CF3
⑧⑥
XQN16+C4
④②⑤
M
I
⑧⑤
XQN16+CF3
㉙
XQN16+C3
④⓪①
④⓪①
⑰
⑮
L
⑬
XQN16+A25
⑲
④①⑧
④①③
④①②
④⓪②
④①④
④②⑤
④②⑤
XQN16+C25
④④
XQS16+A25
XQS16+A25
㊾
XQS16+A25
④⑦
⑫⑧
XQS16+A25
⑫⑦
⑫⑤
⑦①
⑥⑦
⑦⓪
XQN16+C3FR
XUC15FP
⑭③
⑥⑨
⑩⓪
④②⑦
⑫④
G
K
⑭②
⑥⑧
④②⑦
⑮⓪
XUC15FP
XWGV15Z32G
XWGV15A32G
⑮①
④②⑦
④①⑨
XQN16+C3FR
⑥②
⑧⑦
⑨⑧
④⓪⑥
⑫
④⓪⓪
⑩②
④②⑦
②
④⓪⑦
⑬⑦
XQN16+C25
XQN16+C25
㊾
F
XQN16+C25
XWGV15A32G
⑨⑥
⑪⑤
⑪④
⑨①
XQN2+A25
XQN16+C6
G
⑭⑨
⑧⑧
⑬④
XQN16+C25
XQN16+C25
XQN16+C35
XWGV15A32G
⑧④
④②③
④②②
XQN16+C5
XQN16+C5
E CASSETTE DOWN C.B.A.
④⑤④
XQN2+CJ4
XQN16+C3

❷ CAMERA LENS SECTION



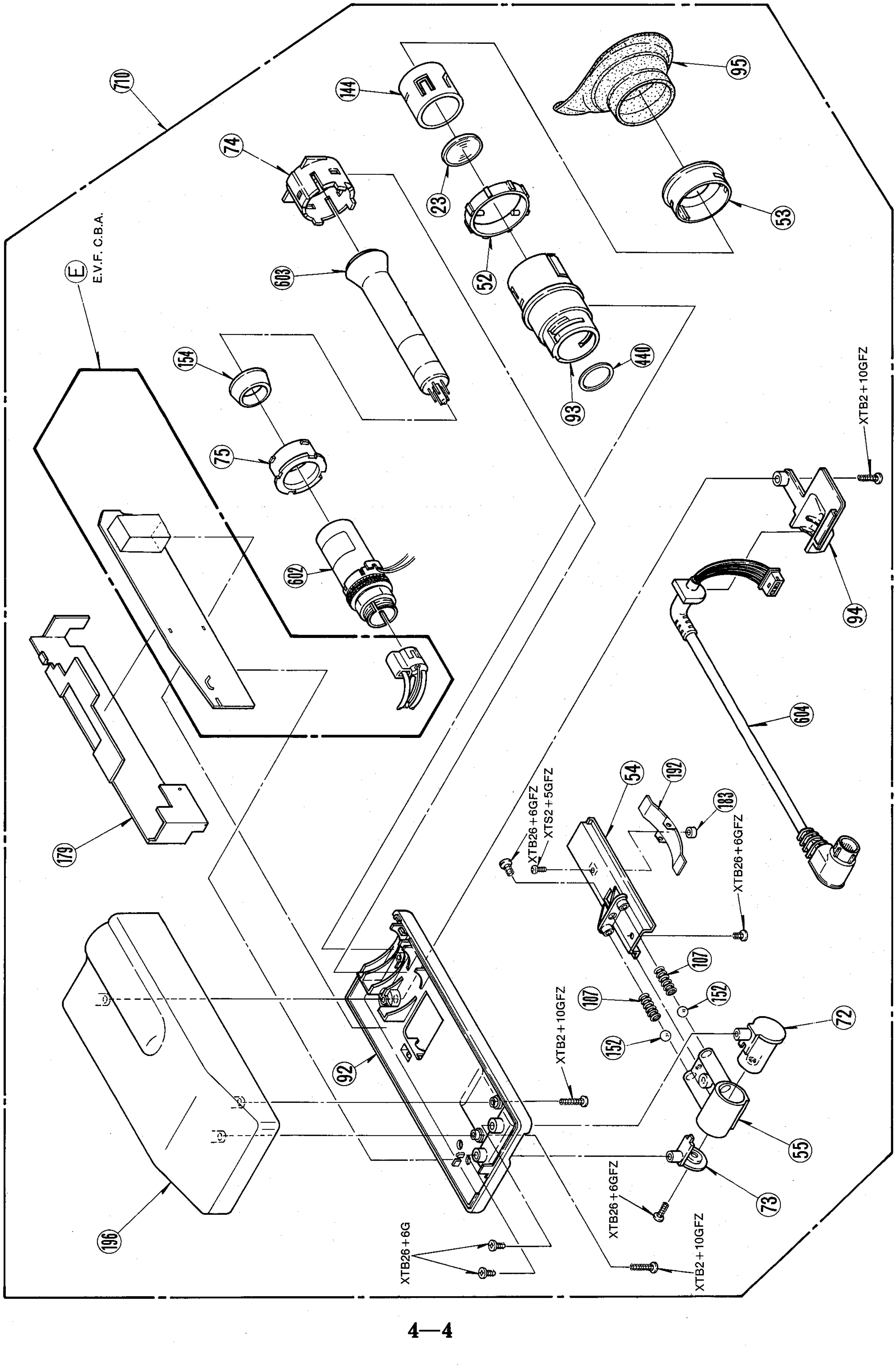
(129)
㉔
(126)
XTB2+6GFC
(178)
(103)
XQN16+CJ10
XQN16+CJ10
(216)
XQN16+CJ5
B
A
(101)
XQN16+CJ10
C
XQN16+CJ5
(159)
E
(155)
D
Ⓔ
(160)
FOCUS & ZOOM POSITION SENSOR C.B.A.
XQN16+CJ5
(217)
XQN16+CJ10
XQN16+CJ10
(218)
XQN16+CJ5
F
XTB2+6GFC
XTB2+6GFC
E
(188)
XTB2+6GFC
XTB2+6GFC
XTB2+6GFC
(187)
(260)
(260)
ENCODER PACK C.B.A. Ⓔ
D
XTN2+20J
C
XTN2+20J
H
Ⓔ
SENSOR C.B.A.
XTB2+6J
Ⓔ
PROCESS C.B.A.
XQN2+C4
XTN16+C5J
XTN2+20J
(141)
XQN2+C4
(104)
(163)
(164)
(165)
XTN2+10J
A
(177)
XTN16+C5J
㉒
B
(153)
H
Ⓔ
AUTO FOCUS C.B.A.
XTN2+10J
(63)
⑱
F
XTN2+10J
XTB2+6GFC

❸ CHASSIS & FRAME SECTION



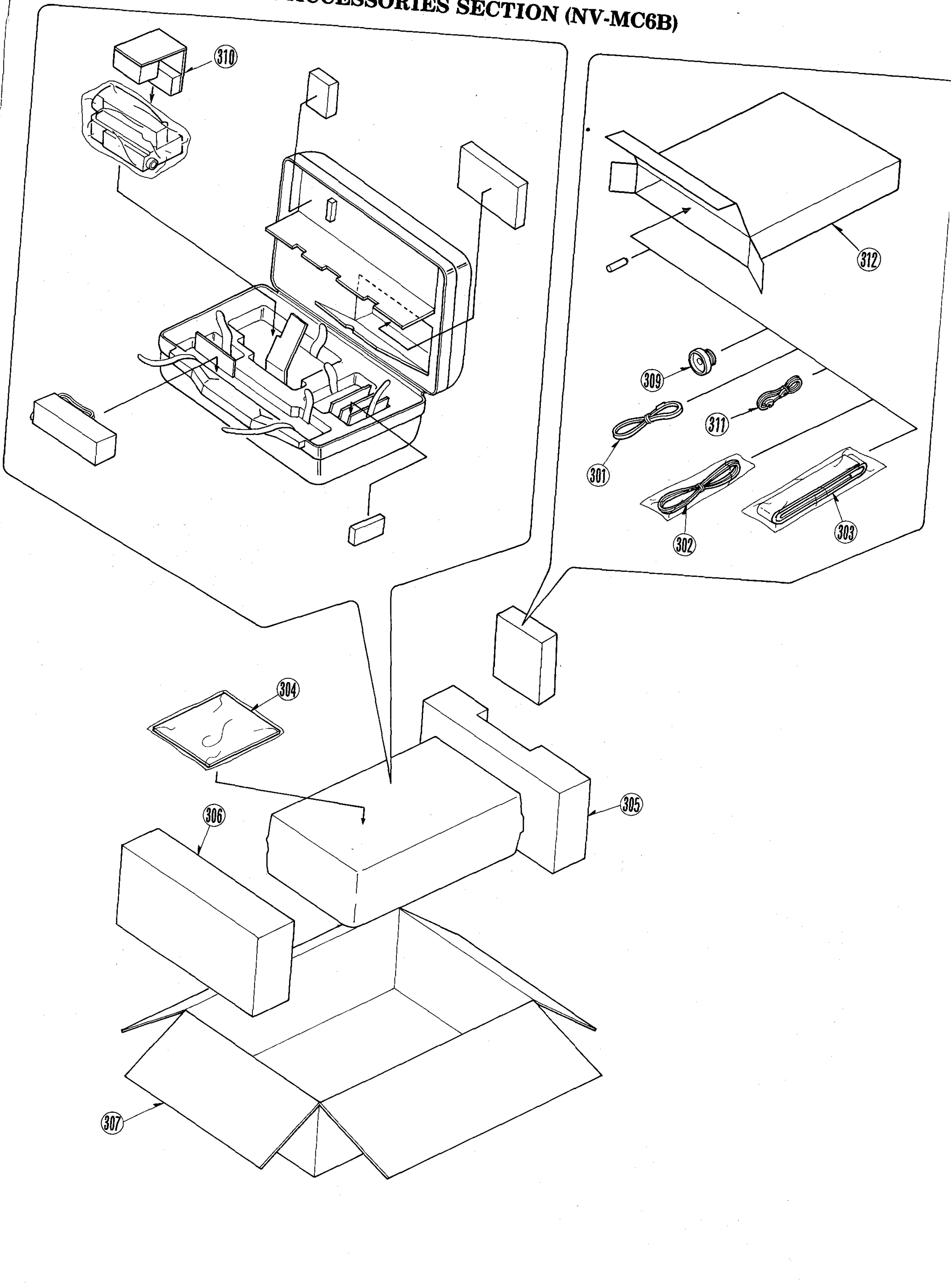
(190)
(601)
(710)
(712)
Ⓔ OPERATION C.B.A.
(76)
(230)
(231)
(32)
XTB2+4G
(162)
(162)
XQN2+A3
(111)
XQN2+A14FZ
XQS2+A4
XTB2+4G
(244)
(51)
XQS2+A4
XQN2+AF4FZ
(173)
XTB2+4G
(245)
(169)
ZOOM SW Ⓔ C.B.A.
XQS2+A4FZ
(122)
(182)
XTB2+4G
XTB26+8FFZ
XQS2+A4
G
XTB2+4G
(600)
XQN2+CJ5FR
(106)
(34)
XTB26+4G
F
(31)
(714)
(26)
J
A
(242)
XQN2+CJ5FR
K
(172)
XQN16+AG4FZ
Ⓔ LUMINANCE & CHROMINANCE C.B.A.
(234)
E
D
(442)
(241)
XSB2+4FZ
XTB2+8G
(170)
H
XQN2+CJ5FR
I
(236)
(404)
XQN16+C25
TAKE UP REEL SENSOR C.B.A. Ⓔ
XQN26+AG4
(42)
XQN26+AG4
XTB2+5GFZ
XTB2+4G
XSB2+4FZ
XSB2+4FZ
XQN16+5FR
(176)
(404)
Ⓔ MAIN C.B.A.
(135)
XSB2+4FZ
L
XQN2+AF4FZ
(90)
(168)
(430)
Ⓔ BACK UP C.B.A.
(249)
(109)
(110)
XTB2+4G
(77)
Ⓔ DRIVE C.B.A.
XQN16+C5FR
Ⓔ SP HEAD AMP C.B.A.
XSB2+4FZ
(220)
A
J
(171)
XTN26+25GR
(251)
XSB2+4FZ
B
(108)
XQN16+AG4FZ
(193)
K
I
(253)
XTB26+4G
(112)
XTB26+4G
(247)
XTB26+4G
(35)
G
(246)
(257)
(453)
(36)
(255)
(189)
(38)
(37)
(39)
B
XQS2+A4FZ
(256)
XTB26+4G
(167)
C
(41)
H
(250)
(252)
(40)
L
(405)
(254)
(248)
(166)
(105)
XQN2+AF4FZ
D
XQN2+AF4FZ
F
E
(78)
(131)
XQN16+AG4FZ
(405)
(194)
(195)
(30)
XSB2+4FZ
XSB2+4FZ
(198)
XQN2+AF4FZ
C
XSB26+6
(27)
XQN2+CF6FZ
XTB2+4G
(50)
(174)
Ⓔ CAMERA OPERATION C.B.A.

❹ E.V.F. SECTION



710
144
95
74
23
53
52
603
Ⓔ
E.V.F. C.B.A.
154
440
93
75
XTB2+10GFZ
602
94
604
54
192
183
XTB26+6GFZ
XTS2+5GFZ
XTB26+6GFZ
179
107
107
152
152
72
XTB2+10GFZ
92
55
73
XTB26+6GFZ
196
XTB26+6G
XTB2+10GFZ

❺ PACKING PARTS & ACCESSORIES SECTION (NV-MC6B)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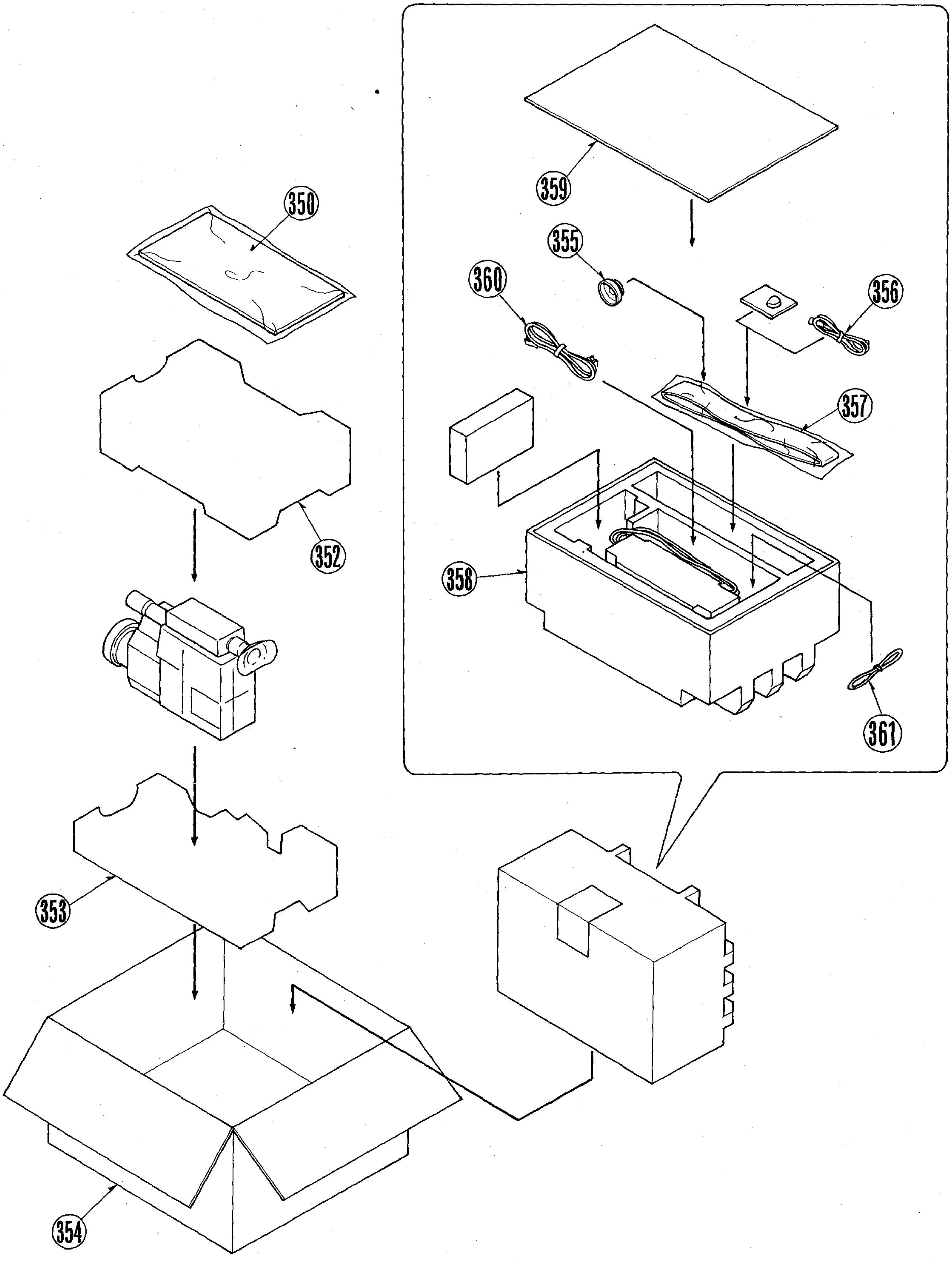
⑥ PACKING PARTS & ACCESSORIES SECTION (NV-MC6EG/E)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ORDER NO. VRD8805M148
(Date of issue: MAY, 1988)

PARTS LIST

MODEL NO: NV-MC6E/EG/B

1. NV-MC6E/EG/B Mechanical Replacement Parts List

※This parts list is detachable from the manual.

Note:1.* Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
1(1)		VXA3042	LOADING GUID UNIT	1	
2(1)		VBS0042	FE HEAD	1	
3(1)		VDB0894	WORM BEARING METAL	1	
4(1)		VDG0407	TAKEUP REEL GEAR	1	
5(1)		VDG0408	RING GUIDE GEAR (S)	2	
6(1)		VDG0409	RING GUIDE GEAR (T)	2	
7(1)		VDG0410	LOADING GEAR S	1	
8(1)		VDG0411	LOADING GEAR T	1	
9(1)		VDG0412	TERMINAL GEAR	1	
10(1)		VDG0413	MOTOR GEAR	1	
11(1)		VDK0017	CONTROL CAM	1	
12(1)		VDP1209	S1 ROLLER	1	
13(1)		VDV0170	DRIVE BELT	1	
14(1)		VEE3722	DEW SENSOR UNIT	1	
15(1)		VEG0657	DD CYLINDER UNIT	1	<!>
16(1)		VED0042	A/C HEAD UNIT	1	
17(1)		VEH0428	UPPER CYLINDER UNIT	1	
18(2)		VXQ0017	ACTUATER UNIT	1	
19(1)		VEM0284	CAPSTAN MOTOR UNIT	1	<!>
20(1)		VEM0292	LOADING MOTOR 1 UNIT	1	<!>
21(1)		VES0416	MODE SELECT SW UNIT	1	
22(2)		VDL0143A	CHRYSTAL FILTER UNIT	1	
23(4)		VDL0145	EVF LENS	1	
24(2)		VXW0001	LENS UNIT	1	
26(3)		VMP1350	SHOULDER STRAP ANGLE	1	
27(3)		VGP2052	CAMERA OPERATION PANEL	1	NV-MC6EG/E
27(3)		VGP1726	CAMERA OPERATION PANEL	1	NV-MC6B
28(1)		VMD1212	T3 POST CAP	1	
29(1)		VXS0077	EARTH BRUSH UNIT	1	
30(3)		VKM1077	CAMERA OPERATION BRACKET	1	
31(3)		VGQ1345	BATTERY FIXING HOLDER	1	
32(3)		VGU4357	ZOOM BUTTON	1	
34(3)		VGU3928	BATTERY FIXING KNOB	1	
35(3)		VGU3932	REC. REVIEW BUTTON	1	
36(3)		VGU3933	BACK LIGHT BUTTON	1	
37(3)		VGU3936	HSS BUTTON	1	NV-MC6B
38(3)		VGU3935	ZOOM FOCUS BUTTON	1	
39(3)		VGU3937	T/D BUTTON	1	
40(3)		VGU3939	AUTO/MANUAL KNOB	1	
41(3)		VGU3938	WHITE BALANCE KNOB	1	
42(3)		VKC0320	BATTERY FIXING HINGE	1	
43(1)		VMA7109	CASSETTE STAND (T)	1	
44(1)		VMA7112	MR SHIELD COVER	1	
45(1)		VMA7119	T1 SLIDE PLATE	1	
46(1)		VMA7120	LOADING MOTOR HOLDER	1	
47(1)		VMA7125	HOLDER STAY (R)	1	
48(1)		VMA7248	H.A PLATE	1	
49(1)		VMA7271	HOLDER STAY (F)	1	
50(3)		VKF0963	HOOD CAP	1	
51(3)		VKF0973	SLIDING LID	1	
52(4)		VGU3946	EYESIGHT CORRECTION RING	1	
53(4)		VJF0512	EYE CAP HOLDER	1	
54(4)		VGQ1347	EVF FOOT	1	
55(4)		VKC0323	ROTALY PIECE	1	
56(1)		VMB1705	CAM SPRING	1	
57(1)		VMB1774	PINCH ROLLER SPRING	1	
58(1)		VMB1707	TAPE GUIDE ARM SPRING	1	
59(1)		VMB1785	ERASE HEAD SPRING	1	
60(1)		VMB1710	SOFT BRAKE SPRING (1)	1	
61(1)		VMB1711	SOFT BRAKE SPRING (2)	1	
62(1)		VMB1786	TENSION SPRING	1	
63(2)		VMX1347	ACTUATER FRAME	1	
64(1)		VMB1714	LOADING SPRING (S)	1	
65(1)		VMB1717	TAPE GUIDE LEVER SPRING 1	1	
66(1)		VMB1718	TAPE GUIDE LEVER SPRING 2	1	
67(1)		VMB1788	SPRING (T)	1	
68(1)		VMB1789	SPRING (S)	1	
69(1)		VMB1721	OPEN SLIDE LEVER SPRING	1	
70(1)		VMB1722	LOCK SPRING	1	
71(1)		VMB1723	SAFETY SPRING (S)	1	
72(4)		VKC0343	ROTARY HOLDER (A)	1	
73(4)		VKC0322	ROTALY HOLDER (B)	1	
74(4)		VGF0244	CRT MASKING	1	
75(4)		VJF0513	CRT HOLDER	1	
76(3)		VKM1526	ZOOM CASE	1	
77(3)		VKM1071	BATTERY BRACKET	1	
78(3)		VKM1322	AWT SENSOR CASE	1	
79(1)		VMD1071	LOADING GUIDE	1	
80(1)		VMD1072	RING GUIDE (1)	1	
81(1)		VMD1073	RING GUIDE (2)	1	
82(1)		VMD1074	RING GUIDE (3)	1	
83(1)		VMD1100	LOADING GUIDE (T)	1	
84(1)		VMD1077	LOADING GUIDE (S)	1	
85(1)		VMD1168	V STOPPER BASE	1	
86(1)		VMD1079	SUPPLY GUIDE PLATE	1	
87(1)		VMD1082	BAND ADJUSTMENT PIECE	1	
88(1)		VEK3446	END SENSOR UNIT	1	
89(1)		VMD1104	RING LIMITER	1	
90(3)		VKM1321	LENS FRONT COVER	1	
91(1)		VMD1156	C.B. STOPPER	1	
92(4)		VKM1079	EVF BOTTOM CASE	1	
93(4)		VKM1080	EYESIGHT CORRECTION CASE	1	
94(4)		VJF0514	CABLE HOLDER	1	
95(4)		VMG0408	EYE CAP	1	
96(1)		VML2102	ERASE HEAD LEVER	1	
97(1)		VML2026	SOFT BRAKE ARM	1	
98(1)		VML2028	BAND ARM	1	
99(1)		VML2032	TAPE GUIDE LEVER 1	1	
100(1)		VML2040	OPEN LEVER	1	
101(2)		VMP1353	AWT SENSOR ANGLE	1	
102(1)		VMX0876	S1 COLLAR	1	
103(2)		VMP1105	AWT SENSOR HOOK	1	
104(2)		VMA7183	CCD PLATE	1	
105(3)		VMB1745	SAFETY LEVER SPRING	1	
106(3)		VMB1744	BATTERY FIXING SPRING	1	
107(4)		VMC0337	COIL SPRING	2	
108(3)		VMC0331	RETURN SPRING (A)	1	
109(3)		VMC0326	BATTERY TERMINAL BOARD (A)	1	
110(3)		VMC0327	BATTERY TERMINAL BOARD (B)	1	
111(3)		VMC0366	SHOE SPRING	1	
112(3)		VMC0346	RETURN SPRING (B)	1	
113(1)		VXA3052	LOADING GEAR BASE UNIT	1	
114(1)		VXA3033	CASSETTE SUPPORT PLATE UNIT	1	
115(1)		VXA3053	CASSETTE STAND S1 UNIT	1	
116(1)		VXA3037	LOADING RING (T) UNIT	1	
117(1)		VXA3061	LOADING RING S1 UNIT	1	
118(1)		TLN107A	SENSOR LED	1	
119(1)		VXA3062	SHAFT HOLDER T1 UNIT	1	
121(1)		VXA3064	SHAFT HOLDER S1 UNIT	1	
122(3)		VMC0335	SLIDING LID SPRING	1	
123(1)		VXA3041	A/C HEAD BASE UNIT	1	
124(1)		VXA3043	CASSETTE HOLDER UNIT	1	
125(1)		VXA3034	CASSETTE UP UNIT	1	
126(2)		VEK3435	AWT SENSOR UNIT	1	
127(1)		VXA2958	CATCH PLATE (S) UNIT	1	
128(1)		VXA2959	CATCH PLATE (T) UNIT	1	
129(2)		VWJ0308	AWT FLEXIBLE CABLE	1	
131(3)		VMD1123	LEVER HOLDER	1	
132(1)		VXJ0063	T1 ROLLER POST UNIT	1	
133(1)		VXJ0062	S1-ROLLER POST UNIT	1	
134(1)		VXL1657	EJECT LEVER UNIT	1	
135(3)		VMD1122	TRIPOD FIXING BRACKET	1	
136(1)		VXL1670	SOFT BRAKE UNIT	1	
137(1)		VXL1658	TENSION ARM UNIT	1	
138(1)		VXL1674	PRESSURE LEVER UNIT	1	
139(1)		VXL1660	TAPE GUIDE ARM UNIT	1	
140(1)		VXL1675	TAPE GUIDE LEVER 2 UNIT	1	
141(2)		VEK3393	CCD UNIT	1	NV-MC6B
141(2)		VEK3982	CCD UNIT	1	NV-MC6E/EG
142(1)		VXL1732	MAIN ARM (1) UNIT	1	
143(1)		VXL1676	OPEN SLIDE LEVER (1) UNIT	1	
144(4)		VJF0511	LENS HOLDER	1	
145(1)		VXP0905	WORM GEAR UNIT	1	
146(1)		VXP0904	SECTOR GEAR UNIT	1	
147(1)		VXP0922	IDLER UNIT	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
148(1)		VXP0890	CLUTCH GEAR (T) UNIT	1	
149(1)		VXP0891	DAMPER UNIT	1	
150(1)		VXR0172	SUPPLY REEL TABLE UNIT	1	
151(1)		VXZ0249	TENSION BAND UNIT	1	
152(4)		VMP1358	STEEL BALL	2	
153(2)		MN3745F	CCD	1	NV-MC6B
153(2)		MN3745NS	CCD	1	NV-MC6E/EG
154(4)		VMX1004	CRT RUBBER	1	
155(2)		VXW0019	LENS ASSEMBLY	1	
159(2)		VJF0518	ENCODER HOLDER (B)	1	
160(2)		VJF0517	ENCODER HOLDER (A)	1	
162(3)		VMG0358	ZOOM SW	2	
163(2)		VWJ0289	CCD FLEXIBLE CABLE UNIT	1	
164(2)		VJF0519	SENSOR FRAME	1	
165(2)		VMD1143	SENSOR C.B.A. FRAME	1	
166(3)		VML2063	SAFETY LEVER	1	
167(3)		VMP1354	KNOB ANGLE	1	
168(3)		VMP1356	LENS FRONT COVER ANGLE	1	
169(3)		VMP1347	ZOOM CASE ANGLE	1	
170(3)		VMP1351	GRIP BELT ANGLE (REAR)	1	
171(3)		VMP1352	EVF SHOE FIXING ANGLE	1	
172(3)		VMP1349	GRIP BELT ANGLE	1	
173(3)		VMP1512	EVF SHOE	1	
174(3)		VGQ1349	HOOD STRAP	1	
176(3)		VMX1253	C.B. SPACER	1	
177(2)		VMX1276	CCD CUSHION	1	
178(2)		VGF0210	AWT COVER	1	
179(4)		VMZ1076	EVF BARRIER	1	
182(3)		VGH1401	BATTERY NAME PLATE	1	
183(4)		VMD1207	HOLDER	1	
187(2)		VSC2399	SENSOR FRAME SHIELD	1	
188(2)		VXA3175	SENSOR SHIELD	1	
189(3)		VEK3449	MIC UNIT	1	
190(3)		VYC0212	GRIP BELT UNIT		
192(4)		VML2118	LEVER	1	
193(3)		VGU3934	FADE BUTTON	1	
194(3)		VKM1524	TOP CASE	1	
195(3)		VYK2220	SIDE CASE (R) (1) UNIT	1	
196(4)		VKM1529	EVF TOP CASE	1	
198(3)		VYP2422	CASSETTE COVER UNIT	1	
216(2)		VEM0286	ZOOM MOTOR	1	
217(2)		VEM0285	AUTO FOCUS MOTOR	1	
218(2)		VXL1635	IRIS UNIT	1	
220(3)		VKF0957	BACKUP BATTERY LID	1	NV-MC6E/EG
220(3)		VKF1046	BACKUP BATTERY LID	1	NV-MC6B
227(1)		VMC0360	PRESSURE PLATE	1	
230(3)		VYQ0107	ZOOM CASE EARTH UNIT	1	
231(3)		VMZ1175	INSULATING SHEET	1	
234(3)		VZM1153	BARRIER (1)	1	
236(3)		VMP1511	ESD SPRING	1	
241(3)		VMZ1199	BARRIER (A)	1	
242(3)		VMZ1200	BARRIER (B)	1	
244(3)		VGF0267	LED CUSHION (B)	1	
245(3)		VGF0266	LED CUSHION (A)	1	
246(3)		VMX1332	SPACER	1	
247(3)		VMP1509	SIDE CASE(R) SUPPORT	1	
248(3)		VGQ1429	ESD BARRIER (1)	1	
249(3)		VMP1507	SUPPORT ANGLE	1	
250(3)		VEK3772	MIC ASSY	1	
251(3)		VKM1449	MIC UPPER CASE	1	
252(3)		VKM1451	MIC BOTTOM CASE	1	
253(3)		VGH1622	MIC SWITCH PANEL	1	
254(3)		VHD0416	SCREW	1	
255(3)		VHD0415	SCREW	2	
256(3)		VMP1694	FIX ANGLE	1	
257(3)		VHD0400	SCREW	1	
260(2)		VMD0398	SCREW	2	
301(5)		VFA0050	AV OUTPUT CABLE	1	NV-MC6B
302(5)		VJA0376	DIN RF CABLE	1	NV-MC6B
303(5)		VFC0130	SHOULDER STRAP	1	NV-MC6B
304(5)		VQT2722	OPERATING INSTRUCTIONS	1	NV-MC6B<!> (ENGLISH)
305(5)		VPN1994	CUSHION (R)	1	NV-MC6B
306(5)		VPN1995	CUSHION (L)	1	NV-MC6B
307(5)		VPG4398	PACKING CASE	1	NV-MC6B
309(5)		VDW0069	HOOD	1	NV-MC6B
310(5)		VPN2066	PAD	1	NV-MC6B
311(5)		VJA0401	DC CABLE	1	NV-MC6B
312(5)		VPK0938	ACCESSORIES BOX	1	NV-MC6B
350(6)		VQT2723	OPERATING INSTRUCTIONS	1	NV-MC6EG/E<!>(ENGLISH GERMAN,FRENCH)
350(6)		VQT2724	OPERATING INSTRUCTIONS	1	NV-MC6E<!> (SWEDISH, DANISH,FINNISH)
350(6)		VQT2725	OPERATING INSTRUCTIONS	1	NV-MC6E<!> (SPANISH, ITALIAN,DUTCH)
352(6)		VPN1958	CUSHION UPPER	1	NV-MC6EG/E
353(6)		VPN1959	CUSHION LOWER	1	NV-MC6EG/E
354(6)		VPG4194	PACKING CASE	1	NV-MC6EG
354(6)		VPG4195	PACKING CASE	1	NV-MC6E
355(6)		VDW0069	HOOD	1	NV-MC6EG/E
356(6)		VFA0050	AV OUTPUT CABLE	1	NV-MC6EG/E
357(6)		VFC0130	SHOULDER STRAP	1	NV-MC6EG/E
358(6)		VPN2251	ACCESSORIES CUSHION	1	NV-MC6EG/E
359(6)		VPN1997	PAD (A)	1	NV-MC6EG/E
360(6)		VJA0401	DC CABLE	1	NV-MC6EG/E
361(6)		VJA0376	DIN RF CABLE	1	NV-MC6EG/E
400(1)		VMA7278	S1 LIMITER	1	
401(1)		VHD0288	P3 ADJUST SCREW	2	
402(1)		VMB1734	THRUST SPRING	1	
404(3)		VHD0363	SCREW	2	
405(3)		VHD0377	CASSETTE COVER SCREW	2	
406(1)		VHN0047	NUT		
407(1)		VMX1335	S1 LOWER LIMITER	1	
412(1)		VDB0899	UNDER BEARING	1	
413(1)		VDB0898	UPPER BEARING	1	
414(1)		VXP0873	ROTOR UNIT	1	
418(1)		VEK3345	STATOR UNIT	1	
419(1)		VHD0390	SCREW	1	
422(1)		VEK3501	SAFETY TAB SW	1	
423(1)		VMX1289	DUMMY SPACER	1	
425(1)		VHD0389	SCREW	3	
427(1)		VMX1061	CUT WASHER (A)	12	
428(1)		VMX1042	CUT WASHER (B)	2	
430(3)		VSC2210	SP,HA SHIELD CASE (UPPER)	1	
432(1)		VMD1189	T3 POST BOTTOM	1	
440(4)		VMX1322	O RING	1	
441(1)		VMS3608	SPACER	1	
442(3)		VMP1355	SHOULDER STRAP ANGLE	1	
448(1)		VMB1716	T3 POST SPRING	1	
449(1)		VHD0392	SCREW	1	
450(1)		VHD0391	SCREW	1	
451(1)		VMX1251	P1 SPACER	1	
452(1)		VHN0065	T3 POST NUT	1	
453(3)		VHD0395	SCREW	1	
454(1)		VMD1103	CASSETTE DOWN C.B HOLDER	1	
600(3)		VJF0509	JACK HOLDER	1	
601(3)		VYK2228	GRIP BELT ANGLE COVER UNIT	1	
602(4)		ELY07V552B	DY	1	<!>
603(4)		M01JVV47WB	CRT	1	<!>
604(4)		VEK3437	10P CABLE	1	
710(3)		VEK3899	EVF UNIT	1	NV-MC6E/EG
710(3)		VEK3452	EVF UNIT	1	NV-MC6B
712(3)		VYK2227	VTR OPERATION CASE (1) UNIT	1	
714(3)		VYK2223	SIDE CASE (L) (1) UNIT	1	
			SERVICE FIXTURES		
		VFM8180H8PF	VHS-C ALIGNMENT TAPE (CCIR)	1	
		VFK0326	HEX WRENCH SET	1	
		VFK27	HEAD CLEANING STICK	1	
		MOR265	MORYTONE GREASE	1	
		VFKS0067	EXTENSION CABLE 20P	1	
		VFKS0075	EXTENSION CABLE 16P	1	
		VFKS0068	EXTENSION CABLE 4P	2	
		VFKS0060	EXTENSION CABLE 2P	1	
		VFK0430	EXTENSION CABLE 14P	1	
		VFK0380	EXTENSION CABLE 18P	1	
		VFKS0074	EXTENSION CABLE	1	FOR Y/C SEPARATOR

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VFK0374	C12 FILTER	1	
		VFK0375	C2 FILTER	3	
		VFK0382	CAMERA HOLDER	1	
		VFK0431	CAMERA HOLDER ARM	1	
		VFK0432	HOLDER SPACER	2	
		XSN26+18	SCREW	2	

2. NV-MC6E/EG/B Electrical Replacement Parts List

Note:1.* Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.
3.Unless otherwise specified,
All resistors are in OHMS ,K=1,000 OHMS. All capacitors are in MICRO-FARADS(uf),P=uuF.
4.The P.C.Board units marked width'■'show below the main assembled parts.
5.Printed circuit board assembly with mark(NLA) is no longer available after discontinuation of the product.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			CAMERA SECTION		
		VEP23064D	PROCESS C.B.A.	1	NV-MC6B/E (NLA)
		VEP23064B	PROCESS C.B.A.	1	NV-MC6EG (NLA)
		VEP28015B	AUTO FOCUS C.B.A.	1	(NLA)
		VEP22074A	CDS PACK C.B.A.	1	(NLA)
		VEP23061B	ENCODER PACK C.B.A.	1	(NLA)
		VEP22073E	SENSOR C.B.A.	1	NV-MC6B/E (NLA)
		VEP22073A	SENSOR C.B.A.	1	NV-MC6EG (NLA)
		VEP30038A	FOCUS & POSITION SENSOR C.B.A.	1	(NLA)
			E.V.F. SECTION		
		VEP27036B	E.V.F. C.B.A.	1	(NLA)
			VTR SECTION		
		VEP06487C	MAIN C.B.A.	1	(NLA)
		VEP03471D	LUMINANCE & CHROMINANCE C.B.A.	1	(NLA)
		VEP06445A	CAMERA OPERATION C.B.A.	1	NV-MC6B (NLA)
		VEP06445B	CAMERA OPERATION C.B.A.	1	NV-MC6E/EG (NLA)
		VEP06444D	VTR OPERATION C.B.A.	1	(NLA)
		VEP05112B	HEAD AMP C.B.A.	1	(NLA)
		VEP02297A	DRIVE C.B.A.	1	(NLA)
		VEK3900	ZOOM SWITCH C.B.A.	1	(NLA)
		VEK3901	START/STOP C.B.A.	1	(NLA)
		VEK3455	TAKEUP REEL C.B.A.	1	(NLA)
		VXA3107	CASSETTE DOWN C.B.A.	1	(NLA)
		VEK3454	BACK UP C.B.A.	1	(NLA)
	■	VEP23064D	PROCESS C.B.A.		NV-MC6B/E
	■	VEP23064B	PROCESS C.B.A.		NV-MC6EG
B301		VJS2227	CONNECTOR	1	
B302		VJS1948	CONNECTOR	1	
			CAPACITORS		
C101-03		ECEA0JKS470	E.CAPACITOR 6.3V 47U	3	
C104-06		ECUM1E473ZFN	CHIP 25V 0.047U	3	
C107,08		ECUM1C224ZFN	CHIP 16V 0.22U	2	
C109		ECST1CY105Z	T.CAPACITOR 16V 1U	1	
C110		ECEA0JKS330I	E.CAPACITOR 6.3V 33U	1	
C111		ECUM1H103ZFV	CHIP 50V 0.01U	1	
C112		ECST1CY105Z	T.CAPACITOR 16V 1U	1	
C113,14		ECUM1E104ZFN	CHIP 25V 0.1U	2	
C115-17		ECUM1H821KBV	CHIP 50V 820P	3	
C118		ECEA1AKK100	E.CAPACITOR 10V 10U	1	
C119,20		ECEA1ASN100	E.CAPACITOR 10V 10U	2	
C123		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C124		ECST1CY105Z	T.CAPACITOR 16V 1U	1	
C125		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C126		ECUM1H102KBV	CHIP 50V 1000P	1	
C301		ECUM1E104ZFN	CHIP 25V 0.1U	1	
C302		ECUM1H150JCV	CHIP 50V 15P	1	
C303		ECSF1CE105B1	T.CAPACITOR 16V 1U	1	
C304		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C305		ECEA1CSN4R7	E.CAPACITOR 16V 4.7U	1	
C306		ECEA1AKK100	E.CAPACITOR 10V 10U	1	
C307		ECEA1VSN2R2	E.CAPACITOR 35V 2.2U	1	
C308		ECUM1H102KBV	CHIP 50V 1000P	1	
C309		ECSF1CE106B1	T.CAPACITOR 16V 10U	1	
C310,11		ECUM1E104ZFN	CHIP 25V 0.1U	2	
C312		ECUM1H561JCV	CHIP 50V 560P	1	
C313		ECUM1C224ZFN	CHIP 16V 0.22U	1	
C314		ECUM1H103ZFV	CHIP 50V 0.01U	1	
C315		ECUM1C224ZFN	CHIP 16V 0.22U	1	
C316		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C319,20		ECUM1E473ZFN	CHIP 25V 0.047U	2	
C321,22		ECUM1H103ZFV	CHIP 50V 0.01U	2	
C323,24		ECUM1E473ZFN	CHIP 25V 0.047U	2	
C325		ECUM1H103ZFV	CHIP 50V 0.01U	1	
C326		ECUM1C224ZFN	CHIP 16V 0.22U	1	
C327		ECUM1E104ZFN	CHIP 25V 0.1U	1	
C328		ECUM1E473ZFN	CHIP 25V 0.047U	1	
C329		ECSF1AE226	T.CAPACITOR 10V 22U	1	
C330		ECSF0JE476	TANTALUM 6.3V 47U	1	
C331		ECUM1C224ZFN	CHIP 16V 0.22U	1	
C335-38		ECUM1E104ZFN	CHIP 25V 0.1U	4	
C340		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C341		ECEA1EKS100I	E.CAPACITOR 25V 10U	1	
C342		ECSF1AE476B1	T.CAPACITOR 10V 47U	1	
C344		ECSF1AE106B1	T.CAPACITOR 10V 10U	1	
C345		ECST1CY105Z	T.CAPACITOR 16V 1U	1	
C346		ECUM1H331KBV	CHIP 50V 330P	1	
C347		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C351		ECSF1AE106B1	T.CAPACITOR 10V 10U	1	
C352		ECUM1H150JCV	CHIP 50V 15P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C353		ECSF1AE106B1	T.CAPACITOR 10V 10U	1	
C354		ECSF1CE106B1	T.CAPACITOR 16V 10U	1	
C355		ECST1AY225Z	T.CAPACITOR 10V 2.2U	1	
C356		ECSF1AE225B1	T.CAPACITOR 10V 2.2U	1	
C357-59		ECUM1E104ZFN	CHIP 25V 0.1U	3	
C360		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C361		ECUM1E104ZFN	CHIP 25V 0.1U	1	
C362		ECUM1H101JCV	CHIP 50V 100P	1	
C363		ECUM1H151JCV	CHIP 50V 150P	1	
C370		ECUM1H102KBV	CHIP 50V 1000P	1	
C371,72		ECUM1H103ZFV	CHIP 50V 0.01U	2	
C373		ECUM1H101JCV	CHIP 50V 100P	1	
C376,77		ECSF1AE685B1	T.CAPACITOR 10V 6.8U	2	
C378,79		ECUM1H101JCV	CHIP 50V 100P	2	
C381-83		ECUM1H101JCV	CHIP 50V 100P	3	
C384		ECUM1E104ZFN	CHIP 25V 0.1U	1	
D101		MA713	DIODE	1	
D104		MA728	DIODE	1	
D105		MA713	DIODE	1	
D301		MA141WA	DIODE	1	
D302		MA3047M	DIODE	1	
D303		MA728	DIODE	1	
D304		MA141K	DIODE	1	
D305		MA141WK	DIODE	1	
D306		MA141K	DIODE	1	
D308		MA728	DIODE	1	
FL301		ELB5B009	FILTER	1	
FL303,04		ELB4A002	FILTER	2	
FL305		VLF0610	FILTER	1	
FL306		ELB4E004	FILTER	1	
FL307		ELB4A003	FILTER	1	
FL309		ELB4B003	FILTER	1	
FL310		ELB4B001	FILTER	1	
FL311		ELB4B002	FILTER	1	
FP101		VJS2282	CONNECTOR	1	
FP301		VJS2137	CONNECTOR	1	
IC101,02		AN1324NS	IC	2	
IC103-05		AN1358S	IC	3	
IC301-03		AN1358S	IC	3	
IC304		AN2153S	IC	1	
IC305		MN4052BS	IC	1	
IC306		AN1324NS	IC	1	
IC307		UPD9313GB	IC	1	
IC308		VCR0200	IC	1	
IC309		MC8181A	IC	1	
IC310		VCR0199	IC	1	
L301,02		VLQ0163K150	COIL 15UH	2	
L303,04		ELJFA150KF	COIL	2	
L306		VLQ0163K330	COIL 33UH	1	
L308		ELJFA150KF	COIL	1	
L311-13		ELJFA150KF	COIL	3	
L315		VLQ0291	COIL	1	
P305		VJP1595T	CONNECTOR(MALE) 2P	1	
Q301-03		2SD1819	TRANSISTOR	3	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
Q304-06		2SB1218	TRANSISTOR	3	
Q307		2SD1819	TRANSISTOR	1	
Q308		2SB1218	TRANSISTOR	1	
Q311		2SD1819	TRANSISTOR	1	
Q314,15		2SD1819	TRANSISTOR	2	
Q316		2SC3931	TRANSISTOR	1	
Q318		2SB1218	TRANSISTOR	1	
Q319		2SB1219	TRANSISTOR	1	
Q320,21		2SD1819	TRANSISTOR	2	
Q322		2SB1219	TRANSISTOR	1	
Q323		2SD874	TRANSISTOR	1	
Q324,25		2SD1819	TRANSISTOR	2	
Q327		2SD1819	TRANSISTOR	1	
Q328		2SC3931	TRANSISTOR	1	
Q330		2SD1819	TRANSISTOR	1	
Q331		2SB970	TRANSISTOR	1	
Q332		2SD1819	TRANSISTOR	1	
Q339		2SD1819	TRANSISTOR	1	
Q340		2SK316	TRANSISTOR	1	
Q344		2SB1218	TRANSISTOR	1	
Q345		2SD1819	TRANSISTOR	1	
Q346,47		2SB1218	TRANSISTOR	2	
Q348		2SK316	TRANSISTOR	1	
Q350		2SB1218	TRANSISTOR	1	
Q351		2SD1819	TRANSISTOR	1	
Q353		2SC3931	TRANSISTOR	1	
QR302		UN5215	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R101,02		ERJ3GEYJ561	CHIP 1/20W 560	2	
R103		ERJ3GEYJ682	CHIP 1/20W 6.8K	1	
R104		ERJ3GEYJ153	CHIP 1/20W 15K	1	
R105		ERJ3GEYJ682	CHIP 1/20W 6.8K	1	
R106		ERJ3GEYJ822	CHIP 1/20W 8.2K	1	
R107		ERJ3GEYJ103	CHIP 1/20W 10K	1	
R109		ERJ3GEYJ153	CHIP 1/20W 15K	1	
R110-13		ERJ3GEYJ333	CHIP 1/20W 33K	4	
R114		ERJ3GEYJ103	CHIP 1/20W 10K	1	
R116		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R117		ERJ3GEYJ153	CHIP 1/20W 15K	1	
R118		ERJ3GEYJ223	CHIP 1/20W 22K	1	
R119		ERJ3GEYJ822	CHIP 1/20W 8.2K	1	
R120		ERJ3GEYJ470	CHIP 1/20W 47	1	
R121		ERJ3GEYJ823	CHIP 1/20W 82K	1	
R122		ERJ3GEYJ223	CHIP 1/20W 22K	1	
R123		ERJ3GEYJ123	CHIP 1/20W 12K	1	
R124-26		ERJ3GEYJ103	CHIP 1/20W 10K	3	
R127-30		ERJ3GEYJ104	CHIP 1/20W 100K	4	
R131		ERJ3GEYJ224	CHIP 1/20W 220K	1	
R132		ERJ3GEYJ104	CHIP 1/20W 100K	1	
R133		ERJ3GEYJ224	CHIP 1/20W 220K	1	
R134		ERJ3GEYJ123	CHIP 1/20W 12K	1	
R143		ERJ3GEYJ333	CHIP 1/20W 33K	1	
R144		ERJ3GEYJ682	CHIP 1/20W 6.8K	1	
R145,46		ERJ3GEYJ102	CHIP 1/20W 1K	2	
R147		ERJ3GEYJ562	CHIP 1/20W 5.6K	1	
R148		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R149		ERJ3GEYJ183	CHIP 1/20W 18K	1	
R150-52		ERJ3GEYJ102	CHIP 1/20W 1K	3	
R154		ERJ3GEYJ393	CHIP 1/20W 39K	1	
R155		ERJ3GEYJ183	CHIP 1/20W 18K	1	
R156,57		ERJ3GEYJ182	CHIP 1/20W 1.8K	2	
R158		ERJ3GEYJ682	CHIP 1/20W 6.8K	1	
R161		ERJ3GEYJ182	CHIP 1/20W 1.8K	1	
R162		ERJ3GEYJ273	CHIP 1/20W 27K	1	
R168		ERJ3GEYJ184	CHIP 1/20W 180K	1	
R198		ERJ3GEYJ562	CHIP 1/20W 5.6K	1	
R302		ERJ3GEYJ273	CHIP 1/20W 27K	1	
R304		ERJ3GEYJ104	CHIP 1/20W 100K	1	
R306		ERJ3GEYJ823	CHIP 1/20W 82K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R307		ERJ3GEYJ392	CHIP 1/20W 3.9K	1	
R308		ERJ3GEYJ274	CHIP 1/20W 270K	1	
R309		ERJ3GEYJ562	CHIP 1/20W 5.6K	1	
R310		ERJ3GEYJ105	CHIP 1/20W 1M	1	
R311		ERJ3GEYJ123	CHIP 1/20W 12K	1	
R312		ERJ3GEYJ563	CHIP 1/20W 56K	1	
R313		ERJ3GEYJ472	CHIP 1/20W 4.7K	1	
R314		ERJ3GEYJ823	CHIP 1/20W 82K	1	
R315		ERJ3GEYJ152	CHIP 1/20W 1.5K	1	
R316		ERJ3GEYJ104	CHIP 1/20W 100K	1	
R317		ERJ3GEYJ222	CHIP 1/20W 2.2K	1	
R318		ERJ3GEYJ473	CHIP 1/20W 47K	1	
R319-22		ERJ3GEYJ103	CHIP 1/20W 10K	4	
R323		ERJ3GEYJ473	CHIP 1/20W 47K	1	
R324,25		ERJ3GEYJ562	CHIP 1/20W 5.6K	2	
R326		ERJ3GEYJ104	CHIP 1/20W 100K	1	
R327		ERJ3GEYJ154	CHIP 1/20W 150K	1	
R328		ERJ3GEYJ123	CHIP 1/20W 12K	1	
R329		ERJ3GEYJ332	CHIP 1/20W 3.3K	1	
R330		ERJ3GEYJ183	CHIP 1/20W 18K	1	
R331		ERJ3GEYJ562	CHIP 1/20W 5.6K	1	
R332		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R333		ERJ3GEYJ472	CHIP 1/20W 4.7K	1	
R334		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R335		ERJ3GEYJ153	CHIP 1/20W 15K	1	
R336		ERJ3GEYJ822	CHIP 1/20W 8.2K	1	
R337		ERJ3GEYJ182	CHIP 1/20W 1.8K	1	
R338		ERJ3GEYJ103	CHIP 1/20W 10K	1	
R339,40		ERJ3GEYJ223	CHIP 1/20W 22K	2	
R341		ERJ3GEYJ562	CHIP 1/20W 5.6K	1	
R342,43		ERJ3GEYJ103	CHIP 1/20W 10K	2	
R346		ERJ3GEYJ152	CHIP 1/20W 1.5K	1	
R347		ERJ3GEYJ393	CHIP 1/20W 39K	1	
R348		ERJ3GEYJ183	CHIP 1/20W 18K	1	
R349		ERJ3GEYJ332	CHIP 1/20W 3.3K	1	
R350		ERJ3GEYJ183	CHIP 1/20W 18K	1	
R351-53		ERJ3GEYJ103	CHIP 1/20W 10K	3	
R354		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R355		ERJ3GEYJ224	CHIP 1/20W 220K	1	
R356		ERJ3GEYJ824	CHIP 1/20W 820K	1	
R357		ERJ3GEYJ103	CHIP 1/20W 10K	1	
R358		ERJ3GEYJ183	CHIP 1/20W 18K	1	
R359		ERJ3GEYJ153	CHIP 1/20W 15K	1	
R362		ERJ3GEYJ472	CHIP 1/20W 4.7K	1	
R363		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R366-68		ERJ3GEYJ273	CHIP 1/20W 27K	3	
R371		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R372		ERJ6GEYK106	CHIP 1/16W 10M	1	
R373		ERJ3GEYJ563	CHIP 1/20W 56K	1	
R374		ERJ3GEYJ274	CHIP 1/20W 270K	1	
R375		ERJ3GEYJ334	CHIP 1/20W 330K	1	
R376		ERJ3GEYJ105	CHIP 1/20W 1M	1	
R377		ERJ3GEYJ563	CHIP 1/20W 56K	1	
R378		ERJ3GEYJ105	CHIP 1/20W 1M	1	
R379		ERJ3GEYJ334	CHIP 1/20W 330K	1	
R380		ERJ3GEYJ274	CHIP 1/20W 270K	1	
R381,82		ERJ3GEYJ563	CHIP 1/20W 56K	2	
R383		ERJ6GEYK106	CHIP 1/16W 10M	1	
R384		ERJ3GEYJ564	CHIP 1/20W 560K	1	
R385		ERJ3GEYJ154	CHIP 1/20W 150K	1	
R386		ERJ3GEYJ124	CHIP 1/20W 120K	1	
R387		ERJ3GEYJ473	CHIP 1/20W 47K	1	
R388		ERJ3GEYJ124	CHIP 1/20W 120K	1	
R389		ERJ3GEYJ333	CHIP 1/20W 33K	1	
R390		ERJ3GEYJ184	CHIP 1/20W 180K	1	
R391		ERJ3GEYJ562	CHIP 1/20W 5.6K	1	
R392		ERJ3GEYJ473	CHIP 1/20W 47K	1	
R393		ERJ3GEYJ562	CHIP 1/20W 5.6K	1	
R394,95		ERJ3GEYJ102	CHIP 1/20W 1K	2	
R396		ERJ3GEYJ333	CHIP 1/20W 33K	1	
R397		ERJ3GEYJ103	CHIP 1/20W 10K	1	
R398		ERJ3GEYJ222	CHIP 1/20W 2.2K	1	
R399		ERJ3GEYJ181	CHIP 1/20W 180	1	
R401		ERJ3GEYJ681	CHIP 1/20W 680	1	
R402		ERJ3GEYJ102	CHIP 1/20W 1K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R404		ERJ3GEYJ332	CHIP 1/20W 3.3K	1	
R405		ERJ3GEYJ473	CHIP 1/20W 47K	1	
R406		ERJ3GEYJ223	CHIP 1/20W 22K	1	
R407,08		ERJ6GEYF561	CHIP 1/16W 560	2	
R409		ERJ3GEYJ103	CHIP 1/20W 10K	1	
R410		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R411		ERJ3GEYJ183	CHIP 1/20W 18K	1	
R412		ERJ3GEYJ222	CHIP 1/20W 2.2K	1	
R415,16		ERJ6GEYF472	CHIP 1/16W 4.7K	2	
R417		ERJ3GEYJ332	CHIP 1/20W 3.3K	1	
R418		ERJ3GEYG682	CHIP 1/20W 6.8K	1	
R419		ERJ3GEYJ473	CHIP 1/20W 47K	1	
R420,21		ERJ3GEYJ103	CHIP 1/20W 10K	2	
R422		ERJ3GEYJ472	CHIP 1/20W 4.7K	1	
R423,24		ERJ3GEYJ102	CHIP 1/20W 1K	2	
R425		ERJ3GEYJ472	CHIP 1/20W 4.7K	1	
R426		ERJ3GEYJ563	CHIP 1/20W 56K	1	
R428		ERJ3GEYJ683	CHIP 1/20W 68K	1	
R429		ERJ3GEYJ104	CHIP 1/20W 100K	1	
R430		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R431		ERJ3GEYJ104	CHIP 1/20W 100K	1	
R432,33		ERJ3GEYJ562	CHIP 1/20W 5.6K	2	
R434		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R435		ERJ3GEYJ153	CHIP 1/20W 15K	1	
R436		ERJ3GEYJ822	CHIP 1/20W 8.2K	1	
R437		ERJ3GEYJ103	CHIP 1/20W 10K	1	
R438		ERJ3GEYJ561	CHIP 1/20W 560	1	
R439		ERJ3GEYJ392	CHIP 1/20W 3.9K	1	
R440		ERJ3GEYJ331	CHIP 1/20W 330	1	
R441		ERJ3GEYJ472	CHIP 1/20W 4.7K	1	
R442		ERJ3GEYJ391	CHIP 1/20W 390	1	
R443,44		ERJ3GEYJ222	CHIP 1/20W 2.2K	2	
R445		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R446		ERJ3GEYJ271	CHIP 1/20W 270	1	
R447-49		ERJ3GEYJ102	CHIP 1/20W 1K	3	
R450		ERJ3GEYJ561	CHIP 1/20W 560	1	
R451		ERJ3GEYJ222	CHIP 1/20W 2.2K	1	
R459		ERJ3GEYJ123	CHIP 1/20W 12K	1	
R460		ERJ3GEYJ822	CHIP 1/20W 8.2K	1	
R461		ERJ3GEYJ122	CHIP 1/20W 1.2K	1	
R462		ERJ3GEYJ472	CHIP 1/20W 4.7K	1	
R466,67		ERJ3GEYJ103	CHIP 1/20W 10K	2	
R468		ERJ3GEYJ333	CHIP 1/20W 33K	1	
R469		ERJ3GEYJ123	CHIP 1/20W 12K	1	
R471		ERJ3GEYJ392	CHIP 1/20W 3.9K	1	
R472		ERJ3GEYJ222	CHIP 1/20W 2.2K	1	
R473		ERJ3GEYJ332	CHIP 1/20W 3.3K	1	
R474		ERJ3GEYJ564	CHIP 1/20W 560K	1	
R476		ERJ3GEYJ562	CHIP 1/20W 5.6K	1	
R477		ERJ3GEYJ392	CHIP 1/20W 3.9K	1	
R478		ERJ3GEYJ223	CHIP 1/20W 22K	1	
R479		ERJ3GEYJ103	CHIP 1/20W 10K	1	
R480		ERJ3GEYJ472	CHIP 1/20W 4.7K	1	
R481		ERJ3GEYJ822	CHIP 1/20W 8.2K	1	
R482		ERJ3GEYJ563	CHIP 1/20W 56K	1	
R483		ERJ3GEYJ333	CHIP 1/20W 33K	1	
R485		ERJ3GEYJ222	CHIP 1/20W 2.2K	1	
R486,87		ERJ3GEYJ102	CHIP 1/20W 1K	2	
R496		ERJ3GEYJ473	CHIP 1/20W 47K	1	
TH101-04		VRE0023	RESISTOR	4	
TH301		ERTD2FHK802	THERMISTOR	1	
VR101,02		EVM7YSW00B14	V.RESISTOR 10K	2	
VR103		EVM7YSW00B54	V.RESISTOR 50K	1	
VR104		EVM7YSW00B25	V.RESISTOR 200K	1	
VR105		EVM7YSX00B14	V.RESISTOR 10K	1	
VR106		EVM7YSW00B14	V.RESISTOR 10K	1	
VR107		EVM7YSW00B24	V.RESISTOR	1	
VR301		EVM7YSW00B14	V.RESISTOR 10K	1	
VR302		EVM7YSX00B13	V.RESISTOR 1K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
VR303		EVM7YSX00B14	V.RESISTOR 10K	1	
VR304		EVM7YSW00B13	V.RESISTOR 1K	1	
VR305		EVM7YSW00B53	V.RESISTOR	1	
VR306		EVM7YSX00B14	V.RESISTOR 10K	1	
VR308		EVM7YSW00B55	V.RESISTOR 500K	1	
VR312		EVM7YSW00B14	V.RESISTOR 10K	1	
VR313		EVM7YSX00B14	V.RESISTOR 10K	1	
VR314,15		EVM7YSX00B54	V.RESISTOR 50K	2	
VR316,17		EVM7YSX00B13	V.RESISTOR 1K	2	
VR318,19		EVM7YSX00B24	V.RESISTOR 20K	2	
VR322-24		EVM7YSW00B14	V.RESISTOR 10K	3	
VR325		EVM7YSW00B34	V.RESISTOR 30K	1	
			MISCELLANEOUS		
		VWJ0305	14 PIN FLEXIBLE CABLE	1	
		VSC2207	SYNC SHIELD CASE (A)	1	
		VSC2247	DELAY LINE SHIELD CASE	1	
		VMZ1182	SYNC BARRIER	1	
		VSC2405	SYNC SHIELD CASE (B)	1	
		VXA3245	SYNC SHIELD CASE UNIT	1	NV-MC6EG
	■	VEP28015B	AUTO FOCUS C.B.A.		
B601		VJP2227	CONNECTOR (MALE)	1	
			CAPACITORS		
C601		ECEA0JU471	E.CAPACITOR 6.3V 470U	1	
C602		ECUM1H270JCV	CHIP 50V 27P	1	
C603,04		ECUM1H330JCV	CHIP 50V 33P	2	
C605-07		ECUM1H103ZFV	CHIP 50V 0.01U	3	
C608-11		ECUM1H101JCV	CHIP 50V 100P	4	
C612		ECUM1C224ZFN	CHIP 16V 0.22U	1	
C613,14		ECUM1E473KB	CHIP 25V 0.047U	2	
C615		ECUM1E104ZFN	CHIP 25V 0.1U	1	
C616,17		ECEA0JKS101I	E.CAPACITOR 6.3V 100U	2	
C618-20		ECEA1CKS100	E.CAPACITOR 16V 10U	3	
C621		ECRJA020E12X	TRIMMER	1	
C622		ECUM1H391KBV	CHIP 50V 390P	1	
C623		ECUM1E104ZFN	CHIP 25V 0.1U	1	
C624,25		ECUM1C224ZFN	CHIP 16V 0.22U	2	
C626		ECUM1E104ZFN	CHIP 25V 0.1U	1	
C627		ECUM1E473ZFN	CHIP 25V 0.047U	1	
C628,29		ECUM1E273KBN	CHIP 25V 0.027U	2	
C630		ECUM1E683ZFN	CHIP 25V 0.063U	1	
C631		ECUM1E273KBN	CHIP 25V 0.027U	1	
C632		ECUM1E104ZFN	CHIP 25V 0.1U	1	
C633		ECUM1E223KBN	CHIP 25V 0.023U	1	
C634		ECEA0JSN220	E.CAPACITOR 6.3V 22U	1	
C635		ECUM1C224ZFN	CHIP 16V 0.22U	1	
C636		ECUM1E104ZFN	CHIP 25V 0.1U	1	
C637		ECUM1E473ZFN	CHIP 25V 0.047U	1	
C638,39		ECUM1C224ZFN	CHIP 16V 0.22U	2	
C640		ECUM1H100DCV	CHIP 50V 10P	1	
C641,42		ECEA1CKS100	E.CAPACITOR 16V 10U	2	
C645		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C646		ECEA1HKS010	E.CAPACITOR 50V 1U	1	
C648		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C649,50		ECUM1H333KB	CHIP 50V 0.033U	2	
C651		ECUM1H103ZFV	CHIP 50V 0.01U	1	
C652		ECEA0JKS101I	E.CAPACITOR 6.3V 100U	1	
C653		ECEA1CU100	E.CAPACITOR 16V 10U	1	
C654		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C655		ECUM1E104ZFN	CHIP 25V 0.1U	1	
C656		ECRJA020E12W	TRIMMER	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C657		ECUM1E104ZFN	CHIP 25V 0.1U	1	
C658		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C659		ECUM1H220JCV	CHIP 50V 22P	1	
C660		ECUM1E104ZFN	CHIP 25V 0.1U	1	
C661		ECUM1H391KBV	CHIP 50V 390P	1	
C663		ECUM1H121JCV	CHIP 50V 120P	1	
D602,03		MA110	DIODE	2	
D604,05		1SS250	DIODE	2	
D606-08		MA110	DIODE	3	
D610		MA153	DIODE	1	
FL601		ELB4B004	FILTER	1	
FL602		VLF0595	FILTER	1	
FL603		ELB4B005	FILTER	1	
FL604		ELB4D001	FILTER	1	
FL605		VLF0596	FILTER	1	
IC601		MN15865VYV	IC	1	
IC602		AN2583S	IC	1	
IC603		AN78N05	IC	1	
IC604		NJM4558M-P	IC	1	
IC605		AN6562S	IC	1	
IC606		NJM3415M	IC	1	
IC607		MN1280Q	IC	1	
L601		VLQ0300J560	COIL 56UH	1	
L602		ELJFA330KF	COIL	1	
L603		VLQEL05F101K	COIL 100UH	1	
P601		VJP1599T	CONNECTOR(MALE) 6P	1	
Q601,02		2SD1819	TRANSISTOR	2	
Q603		2SB710	TRANSISTOR CHIP	1	
Q604		2SB1219	TRANSISTOR	1	
Q605		2SD1820	TRANSISTOR	1	
Q606		2SB1219	TRANSISTOR	1	
Q607		2SD1820	TRANSISTOR	1	
Q608-12		2SD1819	TRANSISTOR	5	
Q613		2SA1255	TRANSISTOR	1	
Q614		2SC3138	TRANSISTOR	1	
Q615		2SD1819	TRANSISTOR	1	
Q616,17		2SB1220	TRANSISTOR	2	
Q618-21		2SD1819	TRANSISTOR	4	
			RESISTORS		
R602,03		ERJ3GEYJ103	CHIP 1/20W 10K	2	
R604		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R605		ERJ3GEYJ683	CHIP 1/20W 68K	1	
R606		ERJ3GEYJ103	CHIP 1/20W 10K	1	
R607		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R608		ERJ3GEYJ223	CHIP 1/20W 22K	1	
R609,10		ERJ3GEYJ563	CHIP 1/20W 56K	2	
R611		ERJ3GEYJ272	CHIP 1/20W 2.7K	1	
R612		ERJ3GEYJ562	CHIP 1/20W 5.6K	1	
R613		ERJ3GEYJ272	CHIP 1/20W 2.7K	1	
R614		ERJ3GEYJ562	CHIP 1/20W 5.6K	1	
R615		ERJ3GEYJ272	CHIP 1/20W 2.7K	1	
R616,17		ERJ3GEYJ104	CHIP 1/20W 100K	2	
R618		ERJ3GEYJ272	CHIP 1/20W 2.7K	1	
R619		ERJ3GEYJ102	CHIP 1/20W 1K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R620,21		ERJ3GEYJ152	CHIP 1/20W 1.5K	2	
R622		ERJ3GEYJ271	CHIP 1/20W 270	1	
R623		ERJ3GEYJ122	CHIP 1/20W 1.2K	1	
R624		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R625		ERJ3GEYJ562	CHIP 1/20W 5.6K	1	
R626-29		ERJ3GEYJ102	CHIP 1/20W 1K	4	
R630		ERJ3GEYJ751	CHIP 1/20W 750	1	
R631		ERJ3GEYJ331	CHIP 1/20W 330	1	
R632		ERJ3GEYJ473	CHIP 1/20W 47K	1	
R633-36		ERJ3GEYJ224	CHIP 1/20W 220K	4	
R637		ERJ3GEYJ394	CHIP 1/20W 390K	1	
R638		ERJ6GEYF333	CHIP 1/16W 33K	1	
R639		ERJ6GEYF473	CHIP 1/16W 47K	1	
R640		ERJ3GEYJ394	CHIP 1/20W 390K	1	
R641		ERJ6GEYF333	CHIP 1/16W 33K	1	
R642		ERJ6GEYF473	CHIP 1/16W 47K	1	
R643,44		ERJ3GEYJ223	CHIP 1/20W 22K	2	
R645		ERJ3GEYJ183	CHIP 1/20W 18K	1	
R646		ERJ3GEYJ224	CHIP 1/20W 220K	1	
R647		ERJ3GEYJ124	CHIP 1/20W 120K	1	
R648		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R649,50		ERJ3GEYJ123	CHIP 1/20W 12K	2	
R651		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R652		ERJ3GEYJ153	CHIP 1/20W 15K	1	
R653		ERJ3GEYJ682	CHIP 1/20W 6.8K	1	
R654,55		ERJ3GEYJ562	CHIP 1/20W 5.6K	2	
R656		ERJ3GEYJ220	CHIP 1/20W 22	1	
R657,58		ERJ3GEYJ103	CHIP 1/20W 10K	2	
R659		ERJ3GEYJ105	CHIP 1/20W 1M	1	
R660-64		ERJ3GEYJ104	CHIP 1/20W 100K	5	
R665,66		ERJ3GEYJ103	CHIP 1/20W 10K	2	
R667		ERJ3GEYJ223	CHIP 1/20W 22K	1	
R668		ERJ3GEYJ222	CHIP 1/20W 2.2K	1	
R669,70		ERJ3GEYJ103	CHIP 1/20W 10K	2	
R671,72		ERJ3GEYJ223	CHIP 1/20W 22K	2	
R673,74		ERJ3GEYJ332	CHIP 1/20W 3.3K	2	
R675		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R676		ERJ3GEYJ103	CHIP 1/20W 10K	1	
R677		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R678		ERJ3GEYJ103	CHIP 1/20W 10K	1	
R679,80		ERJ3GEYJ332	CHIP 1/20W 3.3K	2	
R681,82		ERJ3GEYJ223	CHIP 1/20W 22K	2	
R683		ERJ3GEYJ562	CHIP 1/20W 5.6K	1	
R684		ERJ3GEYJ681	CHIP 1/20W 680	1	
R685		ERJ3GEYJ105	CHIP 1/20W 1M	1	
R686		ERJ3GEYJ333	CHIP 1/20W 33K	1	
R687		ERJ3GEYJ182	CHIP 1/20W 1.8K	1	
R688		ERJ3GEYJ333	CHIP 1/20W 33K	1	
R689		ERJ3GEYJ182	CHIP 1/20W 1.8K	1	
R690		ERJ3GEYJ393	CHIP 1/20W 39K	1	
R691		ERJ3GEYJ563	CHIP 1/20W 56K	1	
R692		ERJ3GEYJ100	CHIP 1/20W 10	1	
R693-96		ERJ3GEYJ103	CHIP 1/20W 10K	4	
R697		ERJ3GEYJ394	CHIP 1/20W 390K	1	
R698		ERJ3GEYJ474	CHIP 1/20W 470K	1	
R699		ERJ3GEYJ220	CHIP 1/20W 22	1	
R800		ERJ3GEYJ221	CHIP 1/20W 220	1	
R801		ERJ3GEYJ332	CHIP 1/20W 3.3K	1	
R804		ERJ3GEYJ104	CHIP 1/20W 100K	1	
R805		ERJ3GEYJ101	CHIP 1/20W 100	1	
T601		ETE13K43AY	TRANSFORMAR	1	
VR601		EVML1GA00B53	V.RESISTOR 5K	1	
VR602		EVML1GA00B15	V.RESISTOR 100K	1	
VR603		EVM7YSX00B14	V.RESISTOR 10K	1	
X601		VSX0196	CRYSTAL OSCILLATOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			MISCELLANEOUS		
		VSC2318	AF SHIELD CASE	1	
	■	VEP22074A	CDS PACK C.B.A.		
			CAPACITORS		
C501		ECUM1H180JCV	CHIP 50V 18P	1	
C502		ECUM1E473ZFN	CHIP 25V 0.047U	1	
C503		ECUM1H180JCV	CHIP 50V 18P	1	
C504		ECST1DC685Z	T.CAPACITOR 20V 6.8U	1	
C506		ECUM1H180JCV	CHIP 50V 18P	1	
C507		ECST1AC106Z	T.CAPACITOR 10V 10U	1	
IC501		AN2010S	IC	1	
PK501		VJR0365	CONNECTOR	1	
			RESISTORS		
R501		ERJ3GEYJ102	CHIP 1/20W 1K	1	
	■	VEP23061B	ENCODER C.B.A.		
			CAPACITORS		
C901		ECST1CY105Z	T.CAPACITOR 16V 1U	1	
C903		ECUM1C224ZFN	CHIP 16V 0.22U	1	
C904		ECST1AC106Z	T.CAPACITOR 10V 10U	1	
C905		ECUM1H330JCV	CHIP 50V 33P	1	
C906,07		ECUM1H102KBV	CHIP 50V 1000P	2	
C908		ECUM1E104ZFN	CHIP 25V 0.1U	1	
C909		ECST1AC106Z	T.CAPACITOR 10V 10U	1	
C910		ECUM1E104ZFN	CHIP 25V 0.1U	1	
C911		ECUM1C224ZFN	CHIP 16V 0.22U	1	
C912		ECUM1H103ZFN	CHIP 50V 0.01U	1	
IC901		AN2253FA	IC	1	
L901		VLQ0163K330	COIL 33UH	1	
PK901,02		VJR0367	CONNECTOR	2	
Q901		2SA1532	TRANSISTOR	1	
Q902		2SB1218	TRANSISTOR	1	
			RESISTORS		
R901		ERJ3GEYJ223	CHIP 1/20W 22K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R902		ERJ3GEYJ273	CHIP 1/20W 27K	1	
R903		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R904		ERJ3GEYJ274	CHIP 1/20W 270K	1	
R907		ERJ3GEYJ393	CHIP 1/20W 39K	1	
R908		ERJ3GEYJ153	CHIP 1/20W 15K	1	
R909		ERJ3GEYJ223	CHIP 1/20W 22K	1	
R910		ERJ3GEYJ273	CHIP 1/20W 27K	1	
R911		ERJ3GEYJ333	CHIP 1/20W 33K	1	
R912		ERJ3GEYJ103	CHIP 1/20W 10K	1	
R913		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R914		ERJ3GEYJ182	CHIP 1/20W 1.8K	1	
R915		ERJ3GEYJ560	CHIP 1/20W 56	1	
R916		ERJ3GEYJ222	CHIP 1/20W 2.2K	1	
R917		ERJ3GEYJ103	CHIP 1/20W 10K	1	
R918		ERJ3GEYG112	CHIP 1/20W 1.1K	1	
R919		ERJ3GEYJ333	CHIP 1/20W 33K	1	
R921		ERJ3GEYJ333	CHIP 1/20W 33K	1	
R923		ERJ3GEYJ102	CHIP 1/20W 1K	1	
	■	VEP22073E	SENSOR C.B.A.		NV-MC6B/E
	■	VEP22073A	SENSOR C.B.A.		NV-MC6EG
B201		VJP1948	CONNECTOR (MALE)	1	
			CAPACITORS		
C201		ECSF1AE476B1	T.CAPACITOR 10V 47U	1	
C202,03		ECUM1H150JCV	CHIP 50V 15P	2	
C204		ECUM1H390JCV	CHIP 50V 39P	1	
C206		ECRLC010A12V	TRIMMER	1	
C207		ECSF1AE106B1	T.CAPACITOR 10V 10U	1	
C208		ECEA0JKS220	E.CAPACITOR 6.3V 22U	1	
C209		ECSF1CE336B1	T.CAPACITOR 16V 33U	1	
C210		ECEA1HKS010	E.CAPACITOR 50V 1U	1	
C211		ECUM1E104MD	CHIP 25V 0.1U	1	
C212		ECSF1EE106B1	T.CAPACITOR 25V 10U	1	
C213		ECUM1E473ZFN	CHIP 25V 0.047U	1	
C214		ECEA1HKS010	E.CAPACITOR 50V 1U	1	
C215,16		ECUM1H270JCV	CHIP 50V 27P	2	
C217		ECSF1EE475B1	T.CAPACITOR 25V 4.7U	1	
C218,19		ECUM1H270JCV	CHIP 50V 27P	2	
C220		ECSF1CE476B1	T.CAPACITOR 16V 47U	1	
C221,22		ECUM1H270JCV	CHIP 50V 27P	2	
C223		ECUM1H682ZFV	C.CAPACITOR CH 50V 6800P	1	
C224		ECUM1E473ZFN	CHIP 25V 0.047U	1	
C225		ECUM1E104ZFN	CHIP 25V 0.1U	1	
C226		ECSF1VE475B1	T.CAPACITOR 35V 4.7U	1	
C227		ECSF1AE106B1	T.CAPACITOR 10V 10U	1	
C228		ECSF1EE106B1	T.CAPACITOR 25V 10U	1	
C229		ECSF0JE476B1	T.CAPACITOR 6.3V 47U	1	
C230-33		ECUM1E104ZFN	CHIP 25V 0.1U	4	
C236		ECUM1H150JCV	CHIP 50V 15P	1	
C237		ECUM1E104ZFN	CHIP 25V 0.1U	1	
C238-40		ECUM1H330JCV	CHIP 50V 33P	3	
C241		ECUM1H101JCV	CHIP 50V 100P	1	
C242,43		ECUM1E104ZFN	CHIP 25V 0.1U	2	
C244		ECUM1E473ZFN	CHIP 25V 0.047U	1	
C245		ECUM1E104ZFN	CHIP 25V 0.1U	1	
C246		ECUM1H150JCV	CHIP 50V 15P	1	
C247		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C248-50		ECUM1E104ZFN	CHIP 25V 0.1U	3	
C251		ECUM1H330JCV	CHIP 50V 33P	1	
C252		ECUM1E104ZFN	CHIP 25V 0.1U	1	
C501		ECUM1H180JCV	CHIP 50V 18P	1	
C502		ECUM1E473ZFN	CHIP 25V 0.047U	1	
C503		ECUM1H180JCV	CHIP 50V 18P	1	
C504		ECST1DC685Z	T.CAPACITOR 20V 6.8U	1	
C506		ECUM1H180JCV	CHIP 50V 18P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C507		ECST1AC106Z	T.CAPACITOR 10V 10U	1	
D202		MA141A	DIODE	1	
D204,05		MA110	DIODE	2	
D207		MA159	DIODE	1	
D209		MA110	DIODE	1	
D210		MA141K	DIODE	1	
FL201		ELB5B010	FILTER	1	
FP201		VJS2125	CONNECTOR	1	
IC201		MN53015XBM	IC	1	
IC202		UPD6147G	IC	1	
IC501		AN2010S	IC	1	
L201		VLQ0163K150	COIL 15UH	1	
L202,03		VLQ0187K150	COIL 15UH	2	
L204-06		VLQ0163K150	COIL 15UH	3	
L207		VLQ0187K150	COIL 15UH	1	
L210-12		VLQ0291	COIL	3	
PK501		VJR0365	CONNECTOR	1	
Q201-03		2SD1819	TRANSISTOR	3	
Q204		2SC3930	TRANSISTOR	1	
Q205		2SA1610	TRANSISTOR	1	
Q206		2SC4176	TRANSISTOR	1	
Q207		2SA1610	TRANSISTOR	1	
Q208		2SC4176	TRANSISTOR	1	
Q209		2SA1610	TRANSISTOR	1	
Q210		2SC4176	TRANSISTOR	1	
Q211		2SC3930	TRANSISTOR	1	
			RESISTORS		
R201,02		ERJ3GEYJ331	CHIP 1/20W 330	2	
R203		ERJ3GEYJ105	CHIP 1/20W 1M	1	
R204		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R205		ERJ3GEYJ333	CHIP 1/20W 33K	1	
R206		ERJ3GEYJ183	CHIP 1/20W 18K	1	
R207		ERJ3GEYJ103	CHIP 1/20W 10K	1	
R208		ERJ3GEYJ471	CHIP 1/20W 470	1	
R209		ERJ3GEYJ473	CHIP 1/20W 47K	1	
R210		ERJ3GEYJ183	CHIP 1/20W 18K	1	
R211		ERJ3GEYJ472	CHIP 1/20W 4.7K	1	
R212		ERJ3GEYJ330	CHIP 1/20W 33	1	
R213,14		ERJ3GEYJ681	CHIP 1/20W 680	2	
R215		ERJ3GEYJ273	CHIP 1/20W 27K	1	
R216		ERJ6GEYJ103	CHIP 1/16W 10K	1	
R217		ERJ3GEYJ101	CHIP 1/20W 100	1	
R218		ERJ3GEYJ472	CHIP 1/20W 4.7K	1	
R219		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R220		ERJ3GEYJ562	CHIP 1/20W 5.6K	1	
R221		ERJ3GEYJ101	CHIP 1/20W 100	1	
R222		ERJ3GEYJ123	CHIP 1/20W 12K	1	
R223,24		ERJ3GEYJ221	CHIP 1/20W 220	2	
R225,26		ERJ3GEYJ102	CHIP 1/20W 1K	2	
R227		ERJ3GEYJ272	CHIP 1/20W 2.7K	1	
R228		ERJ3GEYJ221	CHIP 1/20W 220	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R229		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R230		ERJ3GEYJ105	CHIP 1/20W 1M	1	
R231		ERJ3GEYJ104	CHIP 1/20W 100K	1	
R232,33		ERJ3GEYJ101	CHIP 1/20W 100	2	
R234		ERJ3GEYJ272	CHIP 1/20W 2.7K	1	
R235		ERJ3GEYJ104	CHIP 1/20W 100K	1	
R236		ERJ3GEYJ270	CHIP 1/20W 27	1	
R501		ERJ3GEYJ102	CHIP 1/20W 1K	1	
VR201		EVM7YSX00B25	V.RESISTOR 200K	1	
VR202		EVM7YSW00B54	V.RESISTOR 50K	1	
X201		VSX0240	CRISTAL OSCILLATOR	1	
	■	VEP30038A	FOCUS & ZOOM POSITION		
			SENSOR C.B.A.		
			RESISTOR		
R1,R2		ERDS2TJ391	CARBON 1/4W 390	2	
PC1-PC4		ON2170LA	PHOTO COUPLER	4	
P1		VJP1610	CONNECTOR	1	
	■	VEP27036B	E.V.F. C.B.A.		
			CAPACITORS		
C701		ECEA0JKS101I	E.CAPACITOR 6.3V 100U	1	
C702		ECSE1CY684V	T.CAPACITOR 16V 0.68U	1	
C703		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C704		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C705		ECEA0JK221	E.CAPACITOR 6.3V 220U	1	
C706		ECUM1H681JCN	C.CAPACITOR CH 50V 680P	1	
C707		ECUM1C224ZFN	CHIP 16V 0.22U	1	
C708		ECUM1E223KBN	CHIP 25V 0.023U	1	
C709		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C710		ECUM1H152JN	CHIP 50V 1500P	1	
C711		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C712		ECEA1AF470	E.CAPACITOR 10V 47U	1	
C713		ECEA0JK221	E.CAPACITOR 6.3V 220U	1	
C714		ECQK1332JZ	P.CAPACITOR	1	
C715		ECEA1CKS220I	E.CAPACITOR 16V 22U	1	
C716		ECUM1H181KN	CHIP 50V 180P	1	
C717		ECEA1HKS4R7	E.CAPACITOR 50V 4.7U	1	
C718		VCK0075K121T	C.CAPACITOR 1KV 120P	1	#C
C719		VCK0058K331	C.CAPACITOR 330P	1	
C720,21		ECUM1H473ZFN	CHIP 50V 0.047U	2	
C722		ECUM1H104ZFN	CHIP 50V 0.1U	1	
D701		MA151K	DIODE	1	
D702		ERA91-02	DIODE	1	
D703		ERA34-10	DIODE	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
IC701		AN2510S	IC	1	
L701		ELC04D002	COIL	1	
L702		ELH5L313	COIL	1	
P701		VJP1599T	CONNECTOR (MALE)	1	
P702		VJP1597T	CONNECTOR (MALE)	1	
Q701		2SB709	TRANSISTOR CHIP	1	
Q702		2SD968A	TRANSISTOR	1	
Q703		2SA1022	TRANSISTOR	1	
			RESISTORS		
R701		ERJ3GEYK6R8	CHIP 1/20W 6.8	1	
R702		ERJ6GEYG682	CHIP 1/16W 6.8K	1	
R703		ERJ3GEYJ392	CHIP 1/20W 3.9K	1	
R704		ERJ3GEYJ182	CHIP 1/20W 1.8K	1	
R705		ERJ6GEYK4R7	CHIP 1/16W 4.7	1	
R706		ERJ6GEYJ150	CHIP 1/16W 15	1	
R707		ERJ6GEYJ151	CHIP 1/16W 150	1	
R708		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R709		ERJ3GEYJ163	CHIP 1/20W 16K	1	
R710		ERJ3GEYJ561	CHIP 1/20W 560	1	
R711		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R712		ERJ3GEYJ683	CHIP 1/20W 68K	1	
R713		ERJ3GEYJ222	CHIP 1/20W 2.2K	1	
R714		ERJ3GEYJ562	CHIP 1/20W 5.6K	1	
R715,16		ERJ3GEYJ102	CHIP 1/20W 1K	2	
R717		ERJ3GEYJ561	CHIP 1/20W 560	1	
R718		ERJ6GEYJ222	CHIP 1/16W 2.2K	1	
R719		ERJ3GEYJ222	CHIP 1/20W 2.2K	1	
R720		ERJ3GEYJ274	CHIP 1/20W 270K	1	
R721		ERJ3GEYJ223	CHIP 1/20W 22K	1	
R722		ERJ3GEYJ682	CHIP 1/20W 6.8K	1	
R723		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R724		ERJ3GEYJ105	CHIP 1/20W 1M	1	
R726		ERJ6GEYJ105	CHIP 1/16W 1M	1	
R727		ERJ6GEYK155	CHIP 1/16W 1.5M	1	
R728		ERJ6GEYK335	CHIP 1/16W 3.3M	1	
R729		ERJ6GEYK225	CHIP 1/16W 2.2M	1	
R730		ERJ3GEYJ821	CHIP 1/20W 820	1	
R731		ERJ3GEYJ102	CHIP 1/20W 1K	1	
T701		ETF14L26A	FLYBACK TRANS.	1	
TH701		VRT0012	THERMISTER	1	
VR701		EVM7YSX00BE2	V.RESISTOR	1	
VR702		EVM7YSX00B53	V.RESISTOR 5K	1	
VR704		VRV0040B225	V.RESISTOR 2.2M	1	
VR705		VRV0040B105	V.RESISTOR 1M	1	
	■	VEP06487C	MAIN C.B.A.		

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			CAPACITORS		
C1001,02		ECEA1CKAJ101	E.CAPACITOR 16V 100U	2	
C1003		ECEA0JSJ331	E.CAPACITOR 6.3V 330U	1	
C1004		ECEA0JSJ151	E.CAPACITOR 6.3V 150U	1	
C1005		ECEA1AU221	E.CAPACITOR 10V 220U	1	
C1006		ECEA1ASJ101	E.CAPACITOR 10V 100U	1	
C1007,08		ECEA1CKAJ101	E.CAPACITOR 16V 100U	2	
C1009,10		ECEA1EKA4R7	E.CAPACITOR 25V 4.7U	2	
C1011,12		ECEA1ASJ101	E.CAPACITOR 10V 100U	2	
C1013		ECEA1AKA330	E.CAPACITOR 10V 33U	1	
C1014		ECEA1AKS330	E.CAPACITOR 10V 33U	1	
C1015		ECSE1EY474Z	T.CAPACITOR 25V 0.47U	1	
C1016		ECUM1E473ZFN	CHIP 25V 0.047U	1	
C1017		ECUM1E223ZFN	CHIP 25V 0.022U	1	
C1018,19		ECUM1C105ZFM	CHIP 16V 1U	2	
C1020		ECUM1H471KBV	CHIP 50V 470P	1	
C1021		ECUM1H820JCV	CHIP 50V 82P	1	
C1022		ECUM1H561KBV	CHIP 50V 560P	1	
C1023		ECUM1C105ZFM	CHIP 16V 1U	1	
C1024		ECUM1E104ZFN	CHIP 25V 0.1U	1	
C1025		ECUM1H103ZFN	CHIP 50V 0.01U	1	
C1026		ECUM1H472KBN	CHIP 50V 4700P	1	
C1027		ECUM1E104ZFN	CHIP 25V 0.1U	1	
C1028		ECUM1H272KBV	CHIP 50V 2700U	1	
C1029		ECUM1H332KBN	CHIP 50V 3300P	1	
C1030		ECUM1C105ZFM	CHIP 16V 1U	1	
C1032,33		ECUM1C105ZFM	CHIP 16V 1U	2	
C1034		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C1035		ECEA1CKAJ101	E.CAPACITOR 16V 100U	1	
C1036		ECEA0JSJ151	E.CAPACITOR 6.3V 150U	1	
C2001,02		ECUM1H101JV	CHIP 50V 100P	2	
C2003		ECUM1H103ZFV	CHIP 50V 0.01U	1	
C2004		ECUM1H473ZFN	CHIP 50V 0.047U	1	
C2005,06		ECEA0JKS470	E.CAPACITOR 6.3V 47U	2	
C2007		ECUM1H472KBN	CHIP 50V 4700P	1	
C2009,10		ECEA0JKS220	E.CAPACITOR 6.3V 22U	2	
C2011		ECUM1H473ZFN	CHIP 50V 0.047U	1	
C2012		ECUM1H102KBV	CHIP 50V 1000P	1	
C2013		ECUM1H471KBV	CHIP 50V 470P	1	
C2014		ECEA1VSN2R2	E.CAPACITOR 35V 2.2U	1	
C2015,16		ECUM1C105ZFM	CHIP 16V 1U	2	
C2017,18		ECUM1H102KBV	CHIP 50V 1000P	2	
C2019		ECEA0JKS330	E.CAPACITOR 6.3V 33U	1	
C2020		ECUM1H820JCV	CHIP 50V 82P	1	
C2021,22		ECUM1C105ZFM	CHIP 16V 1U	2	
C2023		ECUM1H333ZFN	CHIP 50V 0.033U	1	
C2024		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C2025,26		ECEA0JKA101	E.CAPACITOR 6.3V 100U	2	
C2027		ECUM1H472KBV	CHIP 50V 4700P	1	
C2028		ECUM1C105ZFM	CHIP 16V 1U	1	
C2029		ECUM1H102KBV	CHIP 50V 1000P	1	
C2030		ECUM1E104ZFN	CHIP 25V 0.1U	1	
C2031		ECUM1C474ZFM	CHIP 16V 0.47U	1	
C2032		ECUM1H103ZFV	CHIP 50V 0.01U	1	
C2033		ECUM1C105ZFM	CHIP 16V 1U	1	
C2034		ECUM1H101JV	CHIP 50V 100P	1	
C2035		ECUM1H102KBV	CHIP 50V 1000P	1	
C2036		ECUM1E104ZFM	CHIP 25V 0.1U	1	
C2037		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C2038,39		ECEA0JKS330	E.CAPACITOR 6.3V 33U	2	
C2040		ECUM1H103ZFN	CHIP 50V 0.01U	1	
C2041		ECUM1C105ZFM	CHIP 16V 1U	1	
C2042		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C2043		ECEA1HKS010	E.CAPACITOR 50V 1U	1	
C2044		ECUM1E104ZFN	CHIP 25V 0.1U	1	
C2045		ECQV1H393JS	P.CAPACITOR 50V 0.039U	1	
C2046		ECUM1H103ZFV	CHIP 50V 0.01U	1	
C2047		ECUM1C105ZFM	CHIP 16V 1U	1	
C2048,49		ECUM1H150JCV	CHIP 50V 15P	2	
C2050		ECUM1E104ZFN	CHIP 25V 0.1U	1	
C2051		ECUM1C474ZFM	CHIP 16V 0.47U	1	
C2052		ECUM1E104ZFN	CHIP 25V 0.1U	1	
C2053,54		ECEA0JKS470	E.CAPACITOR 6.3V 47U	2	
C3501		ECUM1C105ZFM	CHIP 16V 1U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C3510,11		ECEA0JK221	E.CAPACITOR 6.3V 220U	2	
C3512		ECUM1H220JCV	CHIP 50V 22P	1	
C3514		ECUM1H103ZFV	CHIP 50V 0.01U	1	
C3515		ECEA1AKS470	E.CAPACITOR 10V 47U	1	
C3516,17		ECUM1H103ZFV	CHIP 50V 0.01U	2	
C3518		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C3519		ECUM1E104ZFN	CHIP 25V 0.1U	1	
C3522		ECUM1H103ZFV	CHIP 50V 0.01U	1	
C3526-28		ECUM1E104ZFN	CHIP 25V 0.1U	3	
C3530		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C3531		ECUM1E104ZFN	CHIP 25V 0.1U	1	
C3532,33		ECUM1H150JCV	CHIP 50V 15P	2	
C3534		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C3536		ECEA1ASJ101	E.CAPACITOR 10V 100U	1	
C4001		ECQP1562JZ	P.CAPACITOR 100V 5600P	1	
C4002		ECQB1H333JH	P.CAPACITOR 50V 0.033U	1	
C4003		ECUM1H153KBN	CHIP 50V 0.015U	1	
C4004		ECUM1H472KBV	CHIP 50V 4700P	1	
C4006		ECUM1H332KBV	CHIP 50V 3300P	1	
C4007		ECEA1HKL010	E.CAPACITOR 50V 1U	1	
C4008		ECUM1H333ZFN	CHIP 50V 0.033U	1	
C4009		ECEA0JKS330	E.CAPACITOR 6.3V 33U	1	
C4010		ECEA1HKK010	E.CAPACITOR 50V 1U	1	
C4011		ECUM1H822KBN	CHIP 50V 8200P	1	
C4012		ECEA0JKS220	E.CAPACITOR 6.3V 22U	1	
C4013		ECEA1HKK010	E.CAPACITOR 50V 1U	1	
C4014		ECUM1H271KBV	CHIP 50V 270P	1	
C4015		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C4016		ECEA1CKS470	E.CAPACITOR 16V 47U	1	
C4017		ECEA1CKS220	E.CAPACITOR 16V 22U	1	
C4018		ECEA0JKS330	E.CAPACITOR 6.3V 33U	1	
C4019		ECEA1HKK010	E.CAPACITOR 50V 1U	1	
C4020		ECUM1H333ZFN	CHIP 50V 0.033U	1	
C4021		ECUM1E273KBN	CHIP 25V 0.027U	1	
C4024		ECEA0JKS220	E.CAPACITOR 6.3V 22U	1	
C4025		ECEA1CKS220	E.CAPACITOR 16V 22U	1	
C4026		ECEA0JKS220	E.CAPACITOR 6.3V 22U	1	
C4027		ECUM1H682KBN	CHIP 50V 6800P	1	
C4028		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C4029		ECUM1H153KBN	CHIP 50V 0.015U	1	
C4030		ECEA1AKS470	E.CAPACITOR 10V 47U	1	
C4031		ECUM1H103ZFN	CHIP 50V 0.01U	1	
C4032		ECEA1HSN010	E.CAPACITOR 50V 1U	1	
C4033		ECEA1HKK010	E.CAPACITOR 50V 1U	1	
C4034		ECEA0JKS101	E.CAPACITOR 6.3V 100U	1	
C4035		ECUM1H391KBV	CHIP 50V 390P	1	
C4036		ECEA0JKS101	E.CAPACITOR 6.3V 100U	1	
C4037		ECEA1EKK4R7	E.CAPACITOR 25V 4.7U	1	
C4038		ECEA1AKS330	E.CAPACITOR 10V 33U	1	
C4039		ECUM1H472KBV	CHIP 50V 4700P	1	
C4040		ECUM1H151JV	CHIP 50V 150P	1	
C4041		ECEA0JKK100	E.CAPACITOR 6.3V 10U	1	
C6001		ECUM1H103ZFV	CHIP 50V 0.01U	1	
C6002		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C6003		ECRJA030E12X	TRIMMER	1	
C6004		ECUM1H330JCV	CHIP 50V 33P	1	
C6005-07		ECUM1H103ZFV	CHIP 50V 0.01U	3	
C6008		ECUM1E104ZFN	CHIP 25V 0.1U	1	
C6009		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C6010		ECUM1H103ZFV	CHIP 50V 0.01U	1	
C6011,12		ECEA1AKS220	E.CAPACITOR 10V 22U	2	
C6013		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C6014		ECEA1EKK4R7	E.CAPACITOR 25V 4.7U	1	
C6015		ECUM1C105ZFM	CHIP 16V 1U	1	
C6016,17		ECUM1H220JCV	CHIP 50V 22P	2	
C6018		ECUM1C105ZFM	CHIP 16V 1U	1	
C6019		ECEA1CKS470	E.CAPACITOR 16V 47U	1	
C6020-24		ECUM1E104ZFN	CHIP 25V 0.1U	5	
C6026		ECUM1H181JV	CHIP 50V 180P	1	
C6901,02		ECUM1C105ZFM	CHIP 16V 1U	2	
D1001		MA701A	DIODE	1	
D1002		11EQS09	DIODE	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
D1003		MA3075H	IC	1	
D1004,05		DAP202U	DIODE	2	
D1006		ERB81-004	DIODE	1	
D1007		MA141A	DIODE	1	
D1008		MA141K	DIODE	1	
D1009		MA141A	DIODE	1	
D1011		MA141K	DIODE	1	
D2001-03		DA204U	DIODE	3	
D2005-07		DAN202U	DIODE	3	
D2009		MA141A	DIODE	1	
D2011		MA141A	DIODE	1	
D4001		DAN202U	DIODE	1	
D4002		MA141K	DIODE	1	
D4003		DAN202U	DIODE	1	
D4004		MA141K	DIODE	1	
D6001-03		MA121	DIODE	3	
D6004		DAP202U	DIODE	1	
D6010		DAP202U	DIODE	1	
D6012		DA204U	DIODE	1	
D6013		DAP202U	DIODE	1	
D6017		MA141K	DIODE	1	
D6019		MA141K	DIODE	1	
D6022		MA121	DIODE	1	
D6025		DA204U	DIODE	1	
D6026		MA141A	DIODE	1	
D6027		MA141K	DIODE	1	
D6901		MA141A	DIODE	1	
D6902		MA141K	DIODE	1	
IC1001		BA6149LS	IC	1	
IC1002		UN102	TRANSISTOR-RESISTOR	1	
IC1003		UPC358G2	IC	1	
IC1004		LM2903M	IC	1	
IC2001		MN67461VDJF	IC	1	
IC2002		AN3798S	IC	1	
IC2005		MN1551VYJS	IC	1	
IC3501		UPD4066BG	IC	1	
IC4001		UPC1513G	IC	1	
IC4002		UPC2300G	IC	1	
IC6001		UPD75108G715	IC	1	
IC6002		LM2903M	IC	1	
IC6003		UPD6105G102	IC	1	
IC6004		S6700A	IC	1	
IC6005		M54543ASL	IC	1	
IC6006		S81250HGRD	IC	1	
IC6007		UPD4094BG	IC	1	
L1001		ELC06D005	COIL	1	
L1002		ELC08D038	COIL 180UH	1	
L1003		VLQ0129	COIL 300UH	1	
L1004		ELC08D025	COIL 600UH	1	
L1005		ELC06D013	COIL 33UH	1	
L1006		VLQEL05F390K	COIL 39UH	1	
L1008		ELEPG221KA	COIL 220UH	1	
L1009		ELC04D006	COIL 120UH	1	
L1010		ELEPG221KA	COIL 220UH	1	
L1011		VLQEL04F101K	COIL 100UH	1	
L3501-03		VLQEL04F101K	COIL 100UH	3	
L3504		VLQ0163K101	COIL 100UH	1	
L3505		VLQEL04F390K	COIL 39UH	1	
L3506		VLQEL04F101K	COIL 100UH	1	
L4001		VLQEL05F101K	COIL 100UH	1	
L4002		ELTMR822JB	TRANSFORMER	1	
L4003		ELTMR153KB	TRANSFORMER	1	
L4004		VLQEL05F221K	COIL 220UH	1	
L6001		VLQ0163K390	COIL 39UH	1	
L6002		VLQEL04F101K	COIL 100UH	1	
P1002		VJS2137	CONNECTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
P1011		VJP1597T	CONNECTOR(MALE) 4P	1	
P2001		VJS2247	CONNECTOR	1	
P3501		VJS2248	CONNECTOR	1	
P3503		VJP2237	CONNECTOR (MALE)	1	
P3504		VJP2272	CONNECTOR (MALE)	1	
P4001		VJP2261	CONNECTOR (MALE)	1	
P4002		VJP2265	CONNECTOR (MALE)	1	
P6001		VJP2271	CONNECTOR (MALE)	1	
P6002		VJP2262	CONNECTOR (MALE)	1	
P6003		VJS2111	CONNECTOR	1	
P6004		VJS2245	CONNECTOR	1	
P6005		VJP2272	CONNECTOR (MALE)	1	
P6006		VJP2271	CONNECTOR (MALE)	1	
P6008		VJP2262	CONNECTOR (MALE)	1	
P6009		VJP2271	CONNECTOR (MALE)	1	
P6010		VJP2272	CONNECTOR (MALE)	1	
P6011		VJP2262	CONNECTOR (MALE)	1	
Q1001		XN1501	TRANSISTOR-RESISTOR	1	
Q1002		2SB956	TRANSISTOR	1	
Q1003		2SD1526	TRANSISTOR CHIP	1	
Q1004,05		2SB956	TRANSISTOR	2	
Q2001		2SD1819	TRANSISTOR	1	
Q3501,02		2SB1218	TRANSISTOR	2	
Q3507		2SB970	TRANSISTOR	1	
Q3510		2SB1218	TRANSISTOR	1	
Q3511,12		XN4601	TRANSISTOR-RESISTOR	2	
Q3513		2SC3931	TRANSISTOR	1	
Q3515		2SB970	TRANSISTOR CHIP	1	
Q3516		2SB970	TRANSISTOR	1	
Q3517		2SD1819	TRANSISTOR	1	
Q3521		2SC3931	TRANSISTOR	1	
Q3523		2SD1819	TRANSISTOR	1	
Q4001		2SD1820	TRANSISTOR	1	
Q4002		2SD1328	TRANSISTOR CHIP	1	
Q4003		2SD1819	TRANSISTOR	1	
Q4005		2SD1819	TRANSISTOR	1	
Q4006		2SB1219	TRANSISTOR	1	
Q4007		2SD1823	TRANSISTOR	1	
Q4009		2SD1819	TRANSISTOR	1	
Q6001		XN1501	TRANSISTOR-RESISTOR	1	
Q6003		2SD1819	TRANSISTOR	1	
Q6004		2SB970	TRANSISTOR	1	(Q,R)
Q6005		2SD1819	TRANSISTOR	1	
QR1001,02		GN1A4M	TRANSISTOR-RESISTOR	2	
QR1003,04		GA1L4M	TRANSISTOR-RESISTOR	2	
QR2001		XN4215	TRANSISTOR-RESISTOR	1	
QR2002		GN1L4M	TRANSISTOR-RESISTOR	1	
QR2003		GA1L4M	TRANSISTOR-RESISTOR	1	
QR2004,05		GN1F4Z	TRANSISTOR-RESISTOR	2	
QR3501		GA1L4M	TRANSISTOR-RESISTOR	1	
QR3502		XN1213	TRANSISTOR-RESISTOR	1	
QR3503,04		GA1F4M	TRANSISTOR-RESISTOR	2	
QR3505		GN1F4M	TRANSISTOR-RESISTOR	1	
QR3510,11		GN1A4Z	TRANSISTOR-RESISTOR	2	
QR4001		GN1L3Z	TRANSISTOR-RESISTOR	1	
QR4002		GA1F4M	TRANSISTOR-RESISTOR	1	
QR6001,02		GA1L4M	TRANSISTOR-RESISTOR	2	
QR6004		GA1A4P	TRANSISTOR-RESISTOR	1	
QR6005		GN1L4M	TRANSISTOR-RESISTOR	1	
QR6006		GN1A4Z	TRANSISTOR-RESISTOR	1	
QR6007,08		GA1L4M	TRANSISTOR-RESISTOR	2	
QR6009		XN4316	TRANSISTOR-RESISTOR	1	
QR6011		GA1F4Z	TRANSISTOR-RESISTOR	1	
QR6013		GA1F4Z	TRANSISTOR-RESISTOR	1	
QR6014		GA1L4M	TRANSISTOR-RESISTOR	1	
QR6015		GN1F4M	TRANSISTOR-RESISTOR	1	
QR6016		GA1F4M	TRANSISTOR-RESISTOR	1	
QR6018		XN1213	TRANSISTOR-RESISTOR	1	
QR6020		GA1F4Z	TRANSISTOR-RESISTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
QR6021		GA1A4P	TRANSISTOR-RESISTOR	1	
QR6022		GA1L4M	TRANSISTOR-RESISTOR	1	
QR6901		GN1A4P	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R1001		ERJ3GEYJ222	CHIP 1/20W 2.2K	1	
R1002		ERJ3GEYJ103	CHIP 1/20W 10K	1	
R1003		ERJ3GEYJ334	CHIP 1/20W 330K	1	
R1004		ERJ3GEYJ154	CHIP 1/20W 150K	1	
R1005		ERJ3GEYJ563	CHIP 1/20W 56K	1	
R1006		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R1007		ERJ3GEYJ391	CHIP 1/20W 390	1	
R1008		ERJ8GCYJ821	CHIP 1/8W 820	1	
R1009		ERJ3GEYJ391	CHIP 1/20W 390	1	
R1010		ERJ8GCYJ821	CHIP 1/8W 820	1	
R1011		ERJ3GEYJ391	CHIP 1/20W 390	1	
R1012		ERJ8GCYJ821	CHIP 1/8W 820	1	
R1013		ERJ3GEYJ391	CHIP 1/20W 390	1	
R1014		ERJ8GCYJ681	CHIP 1/8W 680	1	
R1015		ERJ3GEYJ122	CHIP 1/20W 1.2K	1	
R1016		ERJ3GEYJ183	CHIP 1/20W 18K	1	
R1017		ERJ3GEYJ273	CHIP 1/20W 27K	1	
R1018,19		ERJ3GEYJ183	CHIP 1/20W 18K	2	
R1020		ERJ3GEYJ473	CHIP 1/20W 47K	1	
R1021		ERJ3GEYJ104	CHIP 1/20W 100K	1	
R1022		ERJ3GEYJ821	CHIP 1/20W 820	1	
R1023,24		ERJ3GEYJ104	CHIP 1/20W 100K	2	
R1025		ERJ3GEYJ105	CHIP 1/20W 1M	1	
R1026		ERJ3GEYJ682	CHIP 1/20W 6.8K	1	
R1027		ERJ3GEYJ105	CHIP 1/20W 1M	1	
R1028		ERJ3GEYJ272	CHIP 1/20W 2.7K	1	
R1029		ERJ3GEYJ104	CHIP 1/20W 100K	1	
R1030		ERJ3GEYJ472	CHIP 1/20W 4.7K	1	
R1031		ERJ8GCYJ330	M.RESISTOR CH 1/8W 33	1	
R1032		ERJ3GEYJ821	CHIP 1/20W 820	1	
R1034		ERJ8GCYJ560	CHIP 1/8W 56	1	
R1035		ERJ3GEJ752	M.RESISTOR CH 3W 7.5K	1	
R1036		ERJ3GEYJ272	CHIP 1/20W 2.7K	1	
R1037		VSF0059	FUSE	1	
R1039		ERJ3GEYJ104	CHIP 1/20W 100K	1	
R1040,41		ERJ3GEYJ102	CHIP 1/20W 1K	2	
R2001,02		ERJ3GEYJ102	CHIP 1/20W 1K	2	
R2003		ERJ3GEYJ392	CHIP 1/20W 3.9K	1	
R2004		ERJ3GEYJ333	CHIP 1/20W 33K	1	
R2005,06		ERJ3GEYJ104	CHIP 1/20W 100K	2	
R2007		ERJ3GEYJ154	CHIP 1/20W 150K	1	
R2009		ERJ3GEYJ154	CHIP 1/20W 150K	1	
R2010		ERJ3GEYJ103	CHIP 1/20W 10K	1	
R2011		ERJ3GEYJ683	CHIP 1/20W 68K	1	
R2012		ERJ3GEYJ334	CHIP 1/20W 330K	1	
R2013		ERJ3GEYJ154	CHIP 1/20W 150K	1	
R2014		ERJ3GEYJ473	CHIP 1/20W 47K	1	
R2015		ERJ3GEYJ183	CHIP 1/20W 18K	1	
R2017		ERJ3GEYJ103	CHIP 1/20W 10K	1	
R2018		ERJ3GEYJ471	CHIP 1/20W 470	1	
R2019		ERJ3GEYJ105	CHIP 1/20W 1M	1	
R2020		ERJ3GEYJ222	CHIP 1/20W 2.2K	1	
R2022		ERJ3GEYJ271	CHIP 1/20W 270	1	
R2024		ERJ3GEYJ152	CHIP 1/20W 1.5K	1	
R2025		ERJ3GEYJ682	CHIP 1/20W 6.8K	1	
R2028		ERJ3GEYJ223	CHIP 1/20W 22K	1	
R2029		ERJ3GEYJ105	CHIP 1/20W 1M	1	
R2030		ERJ3GEYJ103	CHIP 1/20W 10K	1	
R2031		ERJ3GEYJ273	CHIP 1/20W 27K	1	
R2032		ERJ3GEYJ333	CHIP 1/20W 33K	1	
R2033		ERJ3GEYJ272	CHIP 1/20W 2.7K	1	
R2035		ERJ3GEYJ154	CHIP 1/20W 150K	1	
R2037		ERJ3GEYJ473	CHIP 1/20W 47K	1	
R2038		ERJ3GEYJ153	CHIP 1/20W 15K	1	
R2039		ERJ3GEYJ104	CHIP 1/20W 100K	1	
R2041		ERJ3GEYJ334	CHIP 1/20W 330K	1	
R2042		ERJ3GEYJ103	CHIP 1/20W 10K	1	
R2043		ERJ3GEYJ102	CHIP 1/20W 1K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R2047		ERJ3GEYJ471	CHIP 1/20W 470	1	
R2048		ERJ3GEYJ221	CHIP 1/20W 220	1	
R2049-51		ERJ3GEYJ333	CHIP 1/20W 33K	3	
R2052		ERJ3GEYJ392	CHIP 1/20W 3.9K	1	
R2053		ERJ3GEYJ682	CHIP 1/20W 6.8K	1	
R2054		ERJ3GEYJ562	CHIP 1/20W 5.6K	1	
R2055		ERJ3GEYJ184	CHIP 1/20W 180K	1	
R2056		ERJ3GEYJ221	CHIP 1/20W 220	1	
R2057		ERJ3GEYJ105	CHIP 1/20W 1M	1	
R3501,02		ERJ3GEYJ272	CHIP 1/20W 2.7K	2	
R3503		ERJ3GEYJ103	CHIP 1/20W 10K	1	
R3517		ERJ3GEYJ103	CHIP 1/20W 10K	1	
R3518		ERJ3GEYJ472	CHIP 1/20W 4.7K	1	
R3519		ERJ3GEYJ392	CHIP 1/20W 3.9K	1	
R3520		ERJ3GEYJ332	CHIP 1/20W 3.3K	1	
R3521		ERJ3GEYJ821	CHIP 1/20W 820	1	
R3526		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R3528		ERJ3GEYJ560	CHIP 1/20W 56	1	
R3529		ERJ3GEYJ220	CHIP 1/20W 22	1	
R3530,31		ERJ3GEYJ821	CHIP 1/20W 820	2	
R3532		ERJ3GEYJ152	CHIP 1/20W 1.5K	1	
R3533		ERJ3GEYJ472	CHIP 1/20W 4.7K	1	
R3534		ERJ3GEYJ681	CHIP 1/20W 680	1	
R3535		ERJ3GEYJ391	CHIP 1/20W 390	1	
R3536		ERJ3GEYJ182	CHIP 1/20W 1.8K	1	
R3537		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R3542,43		ERJ3GEYJ472	CHIP 1/20W 4.7K	2	
R3544		ERJ3GEYJ332	CHIP 1/20W 3.3K	1	
R3545		ERJ3GEYJ682	CHIP 1/20W 6.8K	1	
R3546,47		ERJ3GEYJ102	CHIP 1/20W 1K	2	
R3548		ERJ3GEYJ331	CHIP 1/20W 330	1	
R3549		ERJ3GEYJ182	CHIP 1/20W 1.8K	1	
R3552		ERJ3GEYJ821	CHIP 1/20W 820	1	
R3559		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R3564,65		ERJ3GEYJ393	CHIP 1/20W 39K	2	
R3566		ERJ3GEYJ154	CHIP 1/20W 150K	1	
R3570		ERJ3GEYJ181	CHIP 1/20W 180	1	
R4001		ERJ3GEYJ100	CHIP 1/20W 10	1	
R4002		ERJ3GEYJ153	CHIP 1/20W 15K	1	
R4003		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R4004		ERJ3GEYJ183	CHIP 1/20W 18K	1	
R4005		ERJ3GEYJ151	CHIP 1/20W 150	1	
R4006		ERJ3GEYJ184	CHIP 1/20W 180K	1	
R4007		ERJ3GEYJ332	CHIP 1/20W 3.3K	1	
R4008		ERJ3GEYJ181	CHIP 1/20W 180	1	
R4009		ERJ3GEYJ122	CHIP 1/20W 1.2K	1	
R4010		ERJ3GEYJ472	CHIP 1/20W 4.7K	1	
R4012		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R4013		ERJ3GEYJ153	CHIP 1/20W 15K	1	
R4014		ERJ3GEYJ122	CHIP 1/20W 1.2K	1	
R4015		ERJ3GEYJ100	CHIP 1/20W 10	1	
R4016		ERJ3GEYJ181	CHIP 1/20W 180	1	
R4017		ERJ3GEYJ472	CHIP 1/20W 4.7K	1	
R4018		ERJ3GEYJ105	CHIP 1/20W 1M	1	
R4025		ERJ3GEYJ273	CHIP 1/20W 27K	1	
R4026		ERJ3GEYJ333	CHIP 1/20W 33K	1	
R4027		ERJ3GEYJ561	CHIP 1/20W 560	1	
R4028		ERJ3GEYJ333	CHIP 1/20W 33K	1	
R4029		ERJ3GEYJ103	CHIP 1/20W 10K	1	
R4032,33		ERJ3GEYJ272	CHIP 1/20W 2.7K	2	
R4035		ERJ3GEYJ101	CHIP 1/20W 100	1	
R4036		ERJ3GEYJ154	CHIP 1/20W 150K	1	
R4037		ERJ3GEYJ273	CHIP 1/20W 27K	1	
R4038		ERJ3GEYJ223	CHIP 1/20W 22K	1	
R4039		ERJ3GEYJ393	CHIP 1/20W 39K	1	
R4040		ERJ3GEYJ681	CHIP 1/20W 680	1	
R4041		ERJ3GEYJ472	CHIP 1/20W 4.7K	1	
R4042		ERJ3GEYJ103	CHIP 1/20W 10K	1	
R4043		ERJ3GEYJ333	CHIP 1/20W 33K	1	
R4044		ERJ3GEYJ104	CHIP 1/20W 100K	1	
R4045		ERJ3GEYJ224	CHIP 1/20W 220K	1	
R4046		ERJ3GEYJ184	CHIP 1/20W 180K	1	
R4047		ERJ3GEYJ123	CHIP 1/20W 12K	1	
R4048		ERJ3GEYJ104	CHIP 1/20W 100K	1	
R4049		ERJ3GEYJ473	CHIP 1/20W 47K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R4050,51		ERJ3GEYJ122	CHIP 1/20W 1.2K	2	
R6001		ERJ3GEYJ223	CHIP 1/20W 22K	1	
R6002		ERJ3GEYJ473	CHIP 1/20W 47K	1	
R6003		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R6004		ERJ3GEYJ103	CHIP 1/20W 10K	1	
R6005		ERJ3GEYJ473	CHIP 1/20W 47K	1	
R6006		ERJ3GEYJ273	CHIP 1/20W 27K	1	
R6007		ERJ3GEYJ124	CHIP 1/20W 120K	1	
R6008		ERJ3GEYJ334	CHIP 1/20W 330K	1	
R6009		ERJ3GEYJ823	CHIP 1/20W 82K	1	
R6010		ERJ3GEYJ473	CHIP 1/20W 47K	1	
R6011		ERJ3GEYJ563	CHIP 1/20W 56K	1	
R6012		ERJ3GEYJ183	CHIP 1/20W 18K	1	
R6013		ERJ3GEYJ563	CHIP 1/20W 56K	1	
R6014		ERJ3GEYJ681	CHIP 1/20W 680	1	
R6015		ERJ3GEYJ103	CHIP 1/20W 10K	1	
R6016		ERJ3GEYJ104	CHIP 1/20W 100K	1	
R6017		ERJ3GEYJ393	CHIP 1/20W 39K	1	
R6018		ERJ3GEYJ103	CHIP 1/20W 10K	1	
R6020		ERJ3GEYJ563	CHIP 1/20W 56K	1	
R6021,22		ERJ3GEYJ102	CHIP 1/20W 1K	2	
R6023,24		ERJ3GEYJ101	CHIP 1/20W 100	2	
R6025		ERJ3GEYJ223	CHIP 1/20W 22K	1	
R6026		ERJ3GEYJ103	CHIP 1/20W 10K	1	
R6027,28		ERJ3GEYJ102	CHIP 1/20W 1K	2	
R6029		ERJ3GEYJ394	CHIP 1/20W 390K	1	
R6030		ERJ3GEYJ473	CHIP 1/20W 47K	1	
R6031-36		ERJ3GEYJ102	CHIP 1/20W 1K	6	
R6037,38		ERJ3GEYJ473	CHIP 1/20W 47K	2	
R6039-41		ERJ3GEYJ333	CHIP 1/20W 33K	3	
R6043,44		ERJ3GEYJ683	CHIP 1/20W 68K	2	
R6045		ERJ3GEYJ391	CHIP 1/20W 390	1	
R6046		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R6047		ERJ3GEYJ683	CHIP 1/20W 68K	1	
R6048		ERJ3GEYJ184	CHIP 1/20W 180K	1	
R6049-51		ERJ3GEYJ102	CHIP 1/20W 1K	3	
R6052,53		ERJ3GEYJ104	CHIP 1/20W 100K	2	
R6054		ERJ3GEYJ103	CHIP 1/20W 10K	1	
R6055,56		ERJ3GEYJ104	CHIP 1/20W 100K	2	
R6058		ERJ3GEY0R00	CHIP 1/20W 0	1	
R6059		ERJ3GEYJ104	CHIP 1/20W 100K	1	
R6060		ERJ3GEYJ100	CHIP 1/20W 10	1	
R6061		ERJ3GEYJ473	CHIP 1/20W 47K	1	
R6062		ERJ3GEYJ152	CHIP 1/20W 1.5K	1	
R6063		ERJ3GEYJ822	CHIP 1/20W 8.2K	1	
R6064,65		ERJ3GEYJ472	CHIP 1/20W 4.7K	2	
R6066		ERJ3GEYJ104	CHIP 1/20W 100K	1	
R6067		ERJ3GEYJ331	CHIP 1/20W 330	1	
R6068		ERJ3GEYJ392	CHIP 1/20W 3.9K	1	
R6069		ERJ3GEYJ152	CHIP 1/20W 1.5K	1	
R6070		ERJ3GEYJ123	CHIP 1/20W 12K	1	
R6071		ERJ3GEYJ184	CHIP 1/20W 180K	1	
R6073		ERJ3GEYJ154	CHIP 1/20W 150K	1	
R6074		ERJ3GEYJ103	CHIP 1/20W 10K	1	
R6075,76		ERJ3GEYJ102	CHIP 1/20W 1K	2	
R6077		ERJ3GEYJ473	CHIP 1/20W 47K	1	
R6078		ERJ3GEYJ104	CHIP 1/20W 100K	1	
R6079-81		ERJ3GEYJ102	CHIP 1/20W 1K	3	
R6082		ERJ3GEYJ223	CHIP 1/20W 22K	1	
R6083		ERJ3GEYJ103	CHIP 1/20W 10K	1	
R6901		ERJ3GEYJ563	CHIP 1/20W 56K	1	
SW6001,02		EVQQFQ02K	SWITCH	2	
T1001		ELL10R014	TRANSFORMER	1	
T4001		EIQ7QF015Q	TRANSFORMAR	1	
T4002		EIQ5QT003Q	TRANSFORMAR	1	
VR1001,02		EVM7NSX00B53	V.RESISTOR 5K	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
VR1003		EVM7NSX00B23	V.RESISTOR 2K	1	
VR2001		EVM7NSX00B15	V.RESISTOR 100K	1	
VR4001		EVM7NSW00B23	V.RESISTOR 2K	1	
VR4002		EVM7NSW00B15	V.RESISTOR 100K	1	
VR6001		EVM7NSW00B24	V.RESISTOR 20K	1	
X1001		VSX0136	CRYSTAL OSCILLATOR	1	
X2001		VSX0154	CRYSTAL OSCILLATOR	1	
X6001		VSX0140	CRYSTAL OSCILLATOR	1	
X6002		VSX0249	CRYSTAL OSCILLATOR	1	
			MISCELLANEOUS		
		VSC2607	SHIELD CASE UNIT	1	
		VSC2422	POWER SHIELD CASE (BOTTOM)	1	
		VMZ1108	SHIELD CASE BARRIER (A)	1	
		VMZ1155	SHIELD CASE BARRIER (B)	1	
		VMX1313	VIDEO C.B.A. SPACER	1	
		VWJ0307	FLEXIBLE CABLE (6P)	1	MAIN C.B.A. TO CAMERA C.B.A.
		VJS1980	E.V.F. CONNECTOR	1	
		VJJ0165	DC JACK	1	
		VJJ0169	REMOTE CONTROL JACK	1	
		VJJ0163	SIGNAL OUTPUT JACK	1	
		VJF0509	JACK HOLDER	1	
	■	VEP03471D	LUMINANCE & CHROMINANCE C.B.A.		
			CAPACITORS		
C3001		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C3002		ECUM1H103ZFV	CHIP 50V 0.01U	1	
C3003,04		ECUM1E104ZFM	CHIP 25V 0.1U	2	
C3005-07		ECUM1H103ZFV	CHIP 50V 0.01U	3	
C3008		ECUM1E104ZFM	CHIP 25V 0.1U	1	
C3009		ECUM1H680JCV	CHIP 50V 68P	1	
C3011		ECUM1H331KBV	CHIP 50V 330P	1	
C3013		ECUM1H150JCV	CHIP 50V 15P	1	
C3028		ECUM1H820JCV	CHIP 50V 82P	1	
C3030		ECUM1H391KBV	CHIP 50V 390P	1	
C3031		ECUM1H390JCV	CHIP 50V 39P	1	
C3033,34		ECUM1H220JCV	CHIP 50V 22P	2	
C3035		ECUM1H103ZFV	CHIP 50V 0.01U	1	
C3036		ECEA0JKK470	E.CAPACITOR 6.3V 47U	1	
C3037		ECUM1H103ZFV	CHIP 50V 0.01U	1	
C3038		ECUM1H390JCV	CHIP 50V 39P	1	
C3040		ECUM1H101JCV	CHIP 50V 100P	1	
C3041		ECSE1VY104Z	T.CAPACITOR 35V 0.1U	1	
C3042		ECUM1H471KBV	CHIP 50V 470P	1	
C3043		ECUM1H271JV	CHIP 50V 270P	1	
C3044		ECUM1H103ZFV	CHIP 50V 0.01U	1	
C3045		ECEA0JSJ151	E.CAPACITOR 6.3V 150U	1	
C3046		ECUM1H681KBV	CHIP 50V 680P	1	
C3049		ECUM1H333ZFN	CHIP 50V 0.033U	1	
C3050		ECUM1H103ZFV	CHIP 50V 0.01U	1	
C3051		ECEA1EKK3R3	E.CAPACITOR 25V 3.3U	1	
C3052		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C3053		ECEA0JKS220	E.CAPACITOR 6.3V 22U	1	
C3054		ECEA1EKK3R3	E.CAPACITOR 25V 3.3U	1	
C3055		ECEA1EKK2R2	E.CAPACITOR 25V 2.2U	1	
C3057		ECUM1H680JCV	CHIP 50V 68P	1	
C3059		ECUM1C105ZFM	CHIP 16V 1U	1	
C3060		ECUM1H221KBV	CHIP 50V 220P	1	
C3061		ECUM1H561KBV	CHIP 50V 560P	1	
C3063		ECUM1H270JCV	CHIP 50V 27P	1	
C3065		ECUM1H390JCV	CHIP 50V 39P	1	
C3066		ECUM1H680JCV	CHIP 50V 68P	1	
C3068		ECUM1H103ZFV	CHIP 50V 0.01U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C3069		ECUM1H121JV	C.CAPACITOR CH 50V 120P	1	
C3070		ECUM1H681KBV	CHIP 50V 680P	1	
C3071		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C3072		ECUM1H103ZFV	CHIP 50V 0.01U	1	
C3073		ECUM1C105ZFM	CHIP 16V 1U	1	
C3075		ECUM1H103ZFV	CHIP 50V 0.01U	1	
C3077-79		ECUM1H103ZFV	CHIP 50V 0.01U	3	
C3080		ECUM1H151JV	CHIP 50V 150P	1	
C3081		ECUM1H103ZFV	CHIP 50V 0.01U	1	
C3082		ECUM1H681KBV	CHIP 50V 680P	1	
C3083,84		ECUM1H103ZFV	CHIP 50V 0.01U	2	
C3085		ECEA0JSJ151	E.CAPACITOR 6.3V 150U	1	
C3086		ECUM1H103ZFV	CHIP 50V 0.01U	1	
C3087		ECEA1EKK3R3	E.CAPACITOR 25V 3.3U	1	
C3088-90		ECUM1H103ZFV	CHIP 50V 0.01U	3	
C3091		ECUM1H560JCV	CHIP 50V 56P	1	
C3092		ECUM1H100CCV	CHIP 50V 10P	1	
C3093,94		ECUM1H103ZFV	CHIP 50V 0.01U	2	
C3097,98		ECUM1H220JCV	CHIP 50V 22P	2	
C3102		ECUM1H561KBV	CHIP 50V 560P	1	
C3105		ECUM1H220JCV	CHIP 50V 22P	1	
C3106		ECUM1E104ZFN	CHIP 25V 0.1U	1	
C3108		ECUM1H050CCV	CHIP 50V 5P	1	
C8001		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C8002-04		ECUM1H103ZFV	CHIP 50V 0.01U	3	
C8005		ECUM1H332KBV	CHIP 50V 3300P	1	
C8007		ECUM1H103ZFV	CHIP 50V 0.01U	1	
C8009		ECUM1H680JCV	CHIP 50V 68P	1	
C8010-12		ECUM1H103ZFV	CHIP 50V 0.01U	3	
C8013		ECUM1E104ZFM	CHIP 25V 0.1U	1	
C8014		ECUM1H103ZFV	CHIP 50V 0.01U	1	
C8015		ECUM1H223ZFM	CHIP 50V 0.022U	1	
C8016		ECUM1E224ZFM	CHIP 25V 0.22U	1	
C8017,18		ECUM1H103ZFV	CHIP 50V 0.01U	2	
C8019		ECUM1H472ZFV	CHIP 50V 4700P	1	
C8020		ECUM1H470JCV	CHIP 50V 47P	1	
C8021		ECUM1H103ZFV	CHIP 50V 0.01U	1	
C8022		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C8023		ECEA1HKK2R2	E.CAPACITOR 50V 2.2U	1	
C8024		ECEA1CKK100	E.CAPACITOR 16V 10U	1	
C8025		ECUM1H102KBV	CHIP 50V 1000P	1	
C8026		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C8027		ECUM1H103ZFV	CHIP 50V 0.01U	1	
C8028		ECUM1H103ZFN	CHIP 50V 0.01U	1	
C8029		ECEA0JSJ151	E.CAPACITOR 6.3V 150U	1	
C8030		ECUM1H103ZFV	CHIP 50V 0.01U	1	
C8031		ECUM1H102KBV	CHIP 50V 1000P	1	
C8032		ECUM1H030CCV	CHIP 50V 3P	1	
C8033		ECEA0GKS470	E.CAPACITOR 4V 47U	1	
C8034		ECUM1C105ZFM	CHIP 16V 1U	1	
C8035-42		ECUM1H103ZFV	CHIP 50V 0.01U	8	
C8045		ECUM1H100CCV	CHIP 50V 10P	1	
C8092,93		ECUM1H103ZFV	CHIP 50V 0.01U	2	
D3001		MA121	DIODE	1	
D3004		MA141K	DIODE	1	
D3007		DAN202U	DIODE	1	
D3008		MA141K	DIODE	1	
D3009,10		MA165	DIODE	2	
D8001,02		MA141K	DIODE	2	
DL3001		EFDCT124A13A	DELAY LINE	1	
FL3002		ELB4C005	FILTER	1	
FL3003,04		VLF0599	FILTER	2	
FL8001		VLF0625	FILTER	1	
FL8002		ELB4B025	FILTER	1	
FL8003		ELB4B024	FILTER	1	
FL8004		ELB4B010	FILTER	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
IC3001		AN3217S	IC	1	
IC3002		AN3321S	IC	1	
IC8001		AN6367S	IC	1	
IC8002		MN6163AS	IC	1	
L3001		VLQEL05F101K	COIL 100UH	1	
L3002		VLQ0163K8R2	COIL 8.2UH	1	
L3003		VLQ0163K181	COIL 180UH	1	
L3006		VLQEL05F101K	COIL 100UH	1	
L3007		VLQEL04F101K	COIL 100UH	1	
L3009		VLQ0163K151	COIL 150UH	1	
L3010		VLQ0163K150	COIL 15UH	1	
L3011		VLQ0163K270	COIL 270UH	1	
L3012		VLQEL04F101K	COIL 100UH	1	
L3013		VLQ0163K121	COIL	1	
L3015		VLQ0163K121	COIL	1	
L3019,20		VLQ0187K180	COIL 180UH	2	
L3021		VLQEL04F101K	COIL 100UH	1	
L3024		VLQ0163K101	COIL 100UH	1	
L8001		VLQEL04F101K	COIL 100UH	1	
L8002		VLQEL05F681K	COIL 680UH	1	
L8004		VLQ0163J121		1	
L8005		VLQEL04F101K	COIL 100UH	1	
L8006		VLQ0163K150	COIL 15UH	1	
L8007,08		VLQEL04F101K	COIL 100UH	2	
L8009		VLQ0163J680	COIL 68UH	1	
P3001		VJS2237	CONNECTOR	1	
Q3001		2SD1820	TRANSISTOR	1	
Q3002		2SB1219	TRANSISTOR	1	
Q3003		2SC3931	TRANSISTOR	1	
Q3007		2SC3931	TRANSISTOR	1	
Q3008		2SD1819	TRANSISTOR	1	
Q3009		2SD1328	TRANSISTOR CHIP	1	
Q3020		2SC3931	TRANSISTOR	1	
Q8001		2SC3931	TRANSISTOR	1	
Q8002		2SB1218	TRANSISTOR	1	
Q8003,04		2SC3931	TRANSISTOR	2	
Q8005		2SD1819	TRANSISTOR	1	
Q8022		2SB1218	TRANSISTOR	1	
Q8023		2SC3931	TRANSISTOR	1	
QR3001		GA1L4M	TRANSISTOR-RESISTOR	1	
QR3007		GA1L4M	TRANSISTOR-RESISTOR	1	
QR3008		XN1213	TRANSISTOR-RESISTOR	1	
QR3012		XN1213	TRANSISTOR-RESISTOR	1	
QR3015		XN1213	TRANSISTOR-RESISTOR	1	
QR3023		XN1213	TRANSISTOR-RESISTOR	1	
QR3025		GN1A4Z	TRANSISTOR-RESISTOR	1	
QR3029		2SD1819	TRANSISTOR	1	
QR3030		GA1F4M	TRANSISTOR-RESISTOR	1	
QR8001		GA1L4M	TRANSISTOR-RESISTOR	1	
QR8003		XN4215	TRANSISTOR-RESISTOR	1	
QR8004		GA1F4M	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R3001		ERJ3GEYJ392	CHIP 1/20W 3.9K	1	
R3002,03		ERJ3GEYJ270	CHIP 1/20W 27	2	
R3004,05		ERJ3GEYJ392	CHIP 1/20W 3.9K	2	
R3006		ERJ3GEYJ182	CHIP 1/20W 1.8K	1	
R3007		ERJ3GEYJ393	CHIP 1/20W 39K	1	

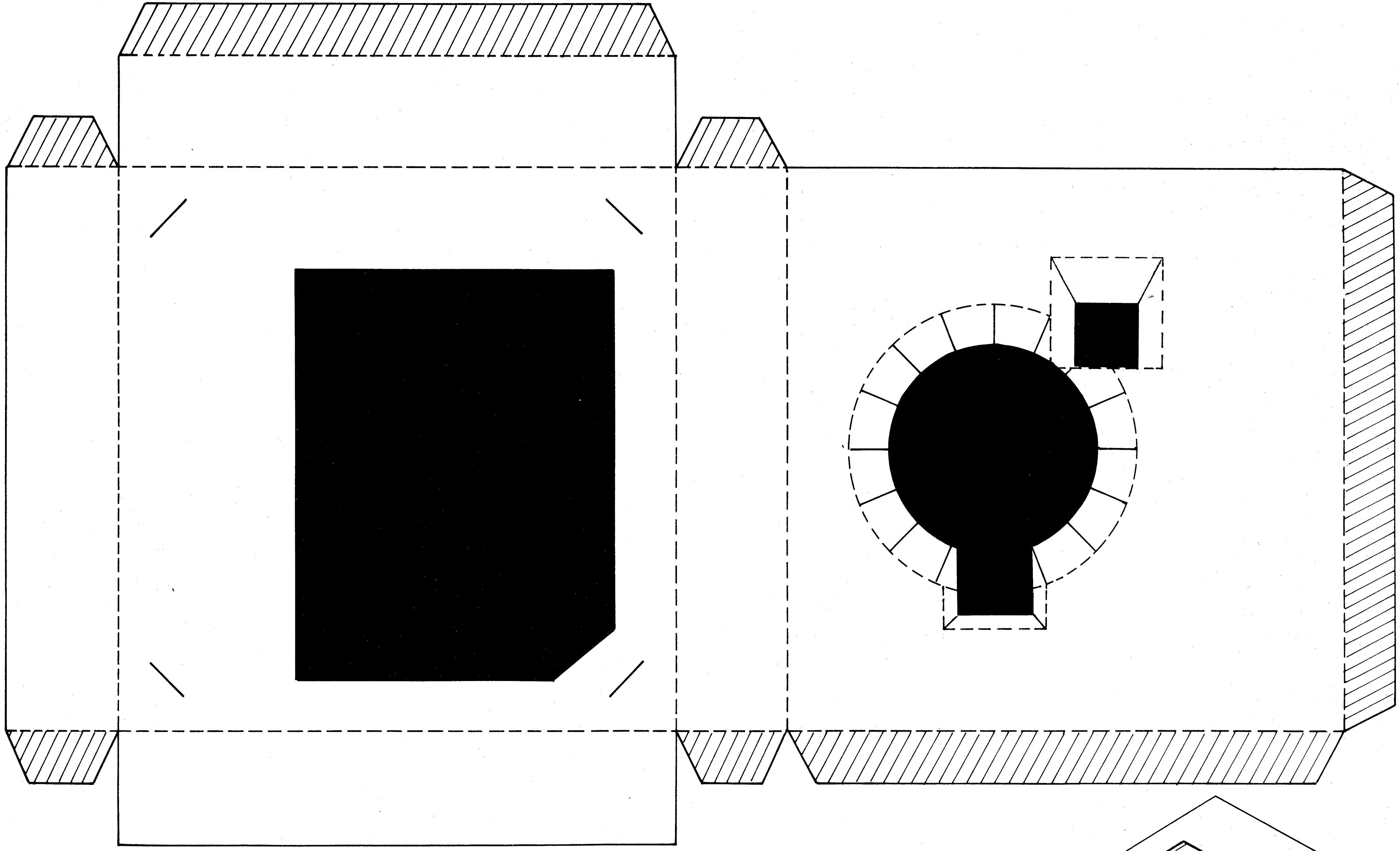
Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3008		ERJ3GEYJ271	CHIP 1/20W 270	1	
R3009		ERJ3GEYJ682	CHIP 1/20W 6.8K	1	
R3013		ERJ3GEYJ121	CHIP 1/20W 120	1	
R3014		ERJ3GEYJ270	CHIP 1/20W 27	1	
R3015		ERJ3GEYJ222	CHIP 1/20W 2.2K	1	
R3016		ERJ3GEYJ331	CHIP 1/20W 330	1	
R3030		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R3034		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R3036		ERJ3GEYJ562	CHIP 1/20W 5.6K	1	
R3037		ERJ3GEYJ182	CHIP 1/20W 1.8K	1	
R3040,41		ERJ3GEYJ102	CHIP 1/20W 1K	2	
R3044,45		ERJ3GEYJ472	CHIP 1/20W 4.7K	2	
R3046		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R3054		ERJ3GEYJ822	CHIP 1/20W 8.2K	1	
R3057		ERJ3GEYJ222	CHIP 1/20W 2.2K	1	
R3058		ERJ3GEYJ103	CHIP 1/20W 10K	1	
R3059		ERJ3GEYJ563	CHIP 1/20W 56K	1	
R3060		ERJ3GEYJ473	CHIP 1/20W 47K	1	
R3063,64		ERJ3GEYJ472	CHIP 1/20W 4.7K	2	
R3065		ERJ3GEYJ331	CHIP 1/20W 330	1	
R3066		ERJ3GEYJ393	CHIP 1/20W 39K	1	
R3067		ERJ3GEYJ271	CHIP 1/20W 270	1	
R3068		ERJ3GEYJ331	CHIP 1/20W 330	1	
R3070		ERJ3GEYJ684	CHIP 1/20W 680K	1	
R3071,72		ERJ3GEYJ103	CHIP 1/20W 10K	2	
R3073		ERJ3GEYJ684	CHIP 1/20W 680K	1	
R3074		ERJ3GEYJ122	CHIP 1/20W 1.2K	1	
R3075		ERJ3GEYJ222	CHIP 1/20W 2.2K	1	
R3076		ERJ3GEYJ101	CHIP 1/20W 100	1	
R3079		ERJ3GEYJ473	CHIP 1/20W 47K	1	
R3082		ERJ3GEYJ821	CHIP 1/20W 820	1	
R3084		ERJ3GEYJ562	CHIP 1/20W 5.6K	1	
R3085		ERJ3GEYJ122	CHIP 1/20W 1.2K	1	
R3086		ERJ3GEYJ223	CHIP 1/20W 22K	1	
R3087,88		ERJ3GEYJ152	CHIP 1/20W 1.5K	2	
R3089		ERJ3GEYJ271	CHIP 1/20W 270	1	
R3090		ERJ3GEYJ562	CHIP 1/20W 5.6K	1	
R3091		ERJ3GEYJ103	CHIP 1/20W 10K	1	
R3093		ERJ3GEYJ182	CHIP 1/20W 1.8K	1	
R3096,97		ERJ3GEYJ391	CHIP 1/20W 390	2	
R3103		ERJ3GEYJ223	CHIP 1/20W 22K	1	
R3104		ERJ3GEYJ103	CHIP 1/20W 10K	1	
R3105		ERJ3GEYJ151	CHIP 1/20W 150	1	
R3106		ERJ3GEYJ221	CHIP 1/20W 220	1	
R3107		ERJ3GEYJ121	CHIP 1/20W 120	1	
R3108		ERJ3GEYJ222	CHIP 1/20W 2.2K	1	
R3110		ERJ3GEYJ182	CHIP 1/20W 1.8K	1	
R3112		ERJ3GEYJ182	CHIP 1/20W 1.8K	1	
R3114-16		ERJ3GEYJ122	CHIP 1/20W 1.2K	3	
R3117,18		ERJ3GEYJ103	CHIP 1/20W 10K	2	
R3123		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R3124		ERJ3GEYJ333	CHIP 1/20W 33K	1	
R3127		ERJ3GEYJ153	CHIP 1/20W 15K	1	
R3140		ERJ3GEYJ223	CHIP 1/20W 22K	1	
R8001,02		ERJ3GEYJ102	CHIP 1/20W 1K	2	
R8003		ERJ3GEYJ820	CHIP 1/20W 82	1	
R8004		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R8006-08		ERJ3GEYJ102	CHIP 1/20W 1K	3	
R8009		ERJ3GEYJ682	CHIP 1/20W 6.8K	1	
R8010		ERJ3GEYJ333	CHIP 1/20W 33K	1	
R8011		ERJ3GEYJ272	CHIP 1/20W 2.7K	1	
R8012		ERJ3GEYJ821	CHIP 1/20W 820	1	
R8013		ERJ3GEYJ472	CHIP 1/20W 4.7K	1	
R8014		ERJ3GEYJ273	CHIP 1/20W 27K	1	
R8015		ERJ3GEYJ103	CHIP 1/20W 10K	1	
R8016		ERJ3GEYJ470	CHIP 1/20W 47	1	
R8017		ERJ3GEYJ123	CHIP 1/20W 12K	1	
R8018		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R8019		ERJ3GEYJ182	CHIP 1/20W 1.8K	1	
R8020		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R8022		ERJ3GEYJ272	CHIP 1/20W 2.7K	1	
R8023		ERJ3GEYJ271	CHIP 1/20W 270	1	
R8025		ERJ3GEYJ122	CHIP 1/20W 1.2K	1	
R8026		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R8027		ERJ3GEYJ183	CHIP 1/20W 18K	1	
R8028		ERJ3GEYJ123	CHIP 1/20W 12K	1	
R8029		ERJ3GEYJ331	CHIP 1/20W 330	1	
R8030		ERJ3GEYJ390	CHIP 1/20W 39	1	
R8031		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R8032		ERJ3GEYJ223	CHIP 1/20W 22K	1	
R8033		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R8034		ERJ3GEYJ122	CHIP 1/20W 1.2K	1	
R8035		ERJ3GEYJ822	CHIP 1/20W 8.2K	1	
R8036		ERJ3GEYJ562	CHIP 1/20W 5.6K	1	
R8039		ERJ8GCYJ682	CHIP 1/8W 6.8K	1	
R8040		ERJ3GEYJ822	CHIP 1/20W 8.2K	1	
R8087		ERJ3GEYJ103	CHIP 1/20W 10K	1	
R8091		ERJ3GEYJ203	CHIP 1/20W 20K	1	
R8092		ERJ3GEYJ104	CHIP 1/20W 100K	1	
R8093		ERJ3GEYJ123	CHIP 1/20W 12K	1	
R8094		ERJ3GEYJ104	CHIP 1/20W 100K	1	
R8095		ERJ3GEYJ123	CHIP 1/20W 12K	1	
R8096		ERJ3GEYJ562	CHIP 1/20W 5.6K	1	
R8097		ERJ3GEYJ105	CHIP 1/20W 1M	1	
R8110		ERJ3GEYJ392	CHIP 1/20W 3.9K	1	
TH3001		ERTD2FIK154S	THERMISTOR	1	
VR3001		EVM7NSX00B23	V.RESISTOR 2K	1	
VR3003,04		EVM7NSW00B54	V.RESISTOR 50K	2	
VR3006,07		EVM7NSW00B14	V.RESISTOR 10K	2	
VR3009		EVM7NSW00B54	V.RESISTOR 50K	1	
VR3010		EVM7NSX00B13	V.RESISTOR 1K	1	
VR3012		EVM7NSX00B54	V.RESISTOR 50K	1	
VR3013		EVM7NSW00B23	V.RESISTOR 2K	1	
VR8001		EVM7NSX00B13	V.RESISTOR 1K	1	
VR8002		EVM7NSX00B54	V.RESISTOR 50K	1	
X8001		VSX0188	CHRISTAL OSCILLATOR	1	
	■	VEP06445A	CAMERA OPERATION C.B.A.		NV-MC6B
	■	VEP06445B	CAMERA OPERATION C.B.A.		NV-MC6E/EG
			CAPACITORS		
C6801,02		ECEA0JKS101	E.CAPACITOR 6.3V 100U	2	
D6801,02		MA165	DIODE	2	
D6803		MA165	DIODE	1	NV-MC6B
P6801		VJS2111	CONNECTOR	1	
P6802		VJP1612T	CONNECTOR(MALE)	1	
			RESISTORS		
R6801		ERDS2TJ562	C.RESISTOR 1/4W 5.6K	1	
R6802		ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R6803,04		ERDS2TJ563	C.RESISTOR 1/4W 56K	2	
SW6801,02		EVQQSU04W	SWITCH	2	
SW6803		EVQQSU04W	SWITCH	1	NV-MC6B
SW6804-06		EVQQSU04W	SWITCH	3	
SW6807		VSS0186	SWITCH	1	
SW6808		VSS0220	SWITCH	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP06444D	VTR OPERATION C.B.A.		
D6304-08		MA165	DIODE	5	
D6310-12		MA165	DIODE	3	
D6313,14		LN247RCALULF	LED	2	
D6317-19		LN247RCALULF	LED	3	
P6301		VJP2245	CONNECTOR (MALE)	1	
P6302		VJP1607T	CONNECTOR(MALE)	1	
QR6301		UN1114	TRANSISTOR-RESISTOR	1	
			RESISTORS		
R6301,02		ERDS2TJ331	C.RESISTOR 1/4W 330	2	
R6305-07		ERDS2TJ331	C.RESISTOR 1/4W 330	3	
SW6304-07		EVQQFQ02K	SWITCH	4	
SW6310-13		EVQQFQ02K	SWITCH	4	
SW6314		VSS0126	SWITCH	1	
SW6315		ESD100124	SWITCH	1	
SW6316		VSP0291	SWITCH	1	
	■	VEP05112B	HEAD AMP C.B.A.		
			CAPACITORS		
C5001		ECUM1C105ZFM	CHIP 16V 1U	1	
C5002		ECUM1H473ZFN	CHIP 50V 0.047U	1	
C5003		ECUM1C105ZFM	CHIP 16V 1U	1	
C5004		ECUM1H473ZFN	CHIP 50V 0.047U	1	
C5005		ECUM1C105ZFM	CHIP 16V 1U	1	
C5006		ECUM1H473ZFN	CHIP 50V 0.047U	1	
C5007		ECUM1C105ZFM	CHIP 16V 1U	1	
C5008		ECUM1H473ZFN	CHIP 50V 0.047U	1	
C5009		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C5010		ECUM1H103ZFV	CHIP 50V 0.01U	1	
C5011		ECUM1C105ZFM	CHIP 16V 1U	1	
C5012		ECUM1H470JCV	CHIP 50V 47P	1	
C5013		ECUM1H103ZFV	CHIP 50V 0.01U	1	
C5014		ECUM1H470JCV	CHIP 50V 47P	1	
C5015		ECUM1H103ZFV	CHIP 50V 0.01U	1	
C5016,17		ECUM1C105ZFM	CHIP 16V 1U	2	
C5018		ECUM1H470JCV	CHIP 50V 47P	1	
C5019		ECUM1H103ZFV	CHIP 50V 0.01U	1	
C5020		ECUM1H470JCV	CHIP 50V 47P	1	
C5021		ECUM1H103ZFV	CHIP 50V 0.01U	1	
C5022,23		ECUM1C105ZFM	CHIP 16V 1U	2	
C5024		ECUM1H151JV	CHIP 50V 150P	1	
C5025		ECUM1H270JCV	CHIP 50V 27P	1	
C5026,27		ECUM1H103ZFV	CHIP 50V 0.01U	2	
C5029		ECUM1H121JCV	CHIP 50V 120P	1	
C5030		ECUM1H151JV	CHIP 50V 150P	1	
C5031		ECUM1H390JCV	CHIP 50V 39P	1	
C5032-39		ECUM1H103ZFV	CHIP 50V 0.01U	8	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
IC5001		AN3311S	IC	1	
L5001		VLQEL04F101K	COIL 100UH	1	
L5002		VLQ0163K330	COIL 33UH	1	
L5003		VLQ0163K180	COIL 18UH	1	
L5004		VLQ0163K100	COIL 10UH	1	
L5005		VLQEL04F120K	COIL 12UH	1	
P5001		VJP2243	CONNECTOR (MALE)	1	
P5002		VJS2236	CONNECTOR	1	
P5003		VJP2260	CONNECTOR (MALE)	1	
Q5001		XN1401	TRANSISTOR-RESISTOR	1	
Q5002-05		2SD1328	TRANSISTOR CHIP	4	
Q5006		XN1401	TRANSISTOR-RESISTOR	1	
Q5007-10		2SD1328	TRANSISTOR CHIP	4	
Q5011		2SB1218	TRANSISTOR	1	
Q5012		2SA812	TRANSISTOR	1	
Q5013		2SA1175	TRANSISTOR	1	
QR5001,02		XN1212	TRANSISTOR-RESISTOR	2	
QR5004,05		XN1113	TRANSISTOR-RESISTOR	2	
			RESISTORS		
R5001		ERJ3GEYJ152	CHIP 1/20W 1.5K	1	
R5002		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R5003		ERJ3GEYJ272	CHIP 1/20W 2.7K	1	
R5004-06		ERJ3GEYJ332	CHIP 1/20W 3.3K	3	
R5007		ERJ3GEYJ152	CHIP 1/20W 1.5K	1	
R5008		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R5009		ERJ3GEYJ272	CHIP 1/20W 2.7K	1	
R5010-12		ERJ3GEYJ332	CHIP 1/20W 3.3K	3	
R5013		ERJ3GEYJ100	CHIP 1/20W 10	1	
R5014		ERJ3GEYJ152	CHIP 1/20W 1.5K	1	
R5015		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R5016		ERJ3GEYJ272	CHIP 1/20W 2.7K	1	
R5017-19		ERJ3GEYJ332	CHIP 1/20W 3.3K	3	
R5020		ERJ3GEYJ152	CHIP 1/20W 1.5K	1	
R5021		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R5022		ERJ3GEYJ272	CHIP 1/20W 2.7K	1	
R5023-25		ERJ3GEYJ332	CHIP 1/20W 3.3K	3	
R5026		ERJ3GEYJ103	CHIP 1/20W 10K	1	
R5027-30		ERJ3GEYJ182	CHIP 1/20W 1.8K	4	
R5031		ERJ3GEYJ103	CHIP 1/20W 10K	1	
R5032		ERJ3GEYJ681	CHIP 1/20W 680	1	
R5033		ERJ3GEYJ182	CHIP 1/20W 1.8K	1	
R5034		ERJ3GEYJ102	CHIP 1/20W 1K	1	
R5035		ERJ3GEYJ152	CHIP 1/20W 1.5K	1	
R5037		ERJ3GEYJ822	CHIP 1/20W 8.2K	1	
R5038		ERJ3GEYJ391	CHIP 1/20W 390	1	
R5039		ERJ3GEYJ271	CHIP 1/20W 270	1	
R5040		ERJ8GCYJ4R7	CHIP 1/8W 4.7	1	
R5041-44		ERJ3GEYJ473	CHIP 1/20W 47K	4	
R5045-48		ERJ3GEYJ471	CHIP 1/20W 470	4	
			MISCELLANEOUS		
		VSC2211	SHIELD CASE (BOTTOM)	1	
		VMZ1093	BARRIER	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP02297A	DRIVE C.B.A.		
			CAPACITORS		
C2601		ECEA1CKS470	E.CAPACITOR 16V 47U	1	
C2602-04		ECUM1H103ZFV	CHIP 50V 0.01U	3	
C2605-07		ECEA1EKK2R2	E.CAPACITOR 25V 2.2U	3	
C2608		ECUM1H103ZFV	CHIP 50V 0.01U	1	
C2609		ECUM1E104ZFN	CHIP 25V 0.1U	1	
C2610		ECEA1CKK4R7	E.CAPACITOR 16V 4.7U	1	
C2611		ECUM1E104ZFN	CHIP 25V 0.1U	1	
C2612		ECEA1CKS470	E.CAPACITOR 16V 47U	1	
C2613,14		ECUM1E104ZFM	CHIP 25V 0.1U	2	
C2615		ECUM1H103ZFV	CHIP 50V 0.01U	1	
C2616		ECUM1E104ZFN	CHIP 25V 0.1U	1	
C2617		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C2618		ECUM1E104ZFN	CHIP 25V 0.1U	1	
C2619-21		ECEA1EKK2R2	E.CAPACITOR 25V 2.2U	3	
C2622-27		ECUM1E333ZFN	CHIP 25V 0.033U	6	
C2628		ECEA1AKS470	E.CAPACITOR 10V 47U	1	
C2629		ECUM1E104ZFN	CHIP 25V 0.1U	1	
C2630		ECUM1H103ZFV	CHIP 50V 0.01U	1	
D2601		MA151WK	DIODE	1	
D2602		MA151K	DIODE	1	
IC2601		TA8402F	IC	1	
IC2602		BA6431F	IC	1	
IC2603		ON2170LF	IC	1	
P2601		VJP2245	CONNECTOR (MALE)	1	
P2602		VJS2138	CONNECTOR	1	
P2603		VJS2325	CONNECTOR	1	
P2604		VJP2260	CONNECTOR (MALE)	1	
Q2601-03		2SB819	TRANSISTOR	3	(Q,R)
Q2604		2SD601	TRANSISTOR CHIP	1	
			RESISTORS		
R2601-03		ERJ3GEYJ103	CHIP 1/20W 10K	3	
R2604,05		ERDS2TJ1R8	C.RESISTOR 1/4W 1.8	2	
R2606		ERJ3GEYJ472	CHIP 1/20W 4.7K	1	
R2607		ERJ3GEYJ563	CHIP 1/20W 56K	1	
R2608-10		ERJ3GEYJ330	CHIP 1/20W 33	3	
R2611		ERDS2TJR68	C.RESISTOR 1/4W 0.68	1	
R2612		ERJ6GMYJ221	CHIP 1/16W 220	1	
R2613,14		ERJ3GEYJ103	CHIP 1/20W 10K	2	
R2615		ERJ3GEYJ151	CHIP 1/20W 150	1	
R2616		ERJ3GEYJ271	CHIP 1/20W 270	1	
R2617		ERDS2TJ101	C.RESISTOR 1/4W 100	1	
R2618		ERJ3GEYJ331	CHIP 1/20W 330	1	
R2619		ERDS2TJ2R2	C.RESISTOR 1/4W 2.2	1	
			MISCELLANEOUS		
Z2601		VMZ1092	BARRIER	1	
		VMD1088	SENSOR HOLDER	1	
	■	VEK3900	ZOOM C.B.A. UNIT		

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEK3901	START/STOP C.B.A. UNIT		
SW1		EVQQSU04W	SWITCH	1	
			MISCELLANEOUS		
		VMC0325	BATTERY TERMINAL PLATE	2	
	■	VEK3455	REEL SENSOR C.B.A. UNIT		
			MISCELLANEOUS		
		ON2170LF	IC	1	
	■	VXA3107	CASSETTE DOWN C.B.A.		
			MISCELLANEOUS		
		ON1382	IC	1	
		VMD1103	C.B. HOLDER	1	
	■	VEK3454	BACK UP C.B.A.		
			MISCELLANEOUS		
		EVQQFQ02K	SWITCH	2	



Assembling Procedure.
1) Cut the " ——— " line.
2) Fold the "– – – –" line and paste on the " ▨ " part, and assemble (make) the box as shown in right side.
3) Use the this box when you adjust the AWT white tracking.